

1-1-1885

Collection Book 1885

Cyrus Guernsey Pringle

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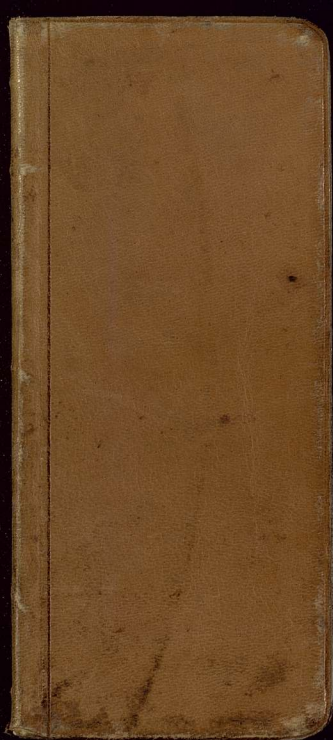


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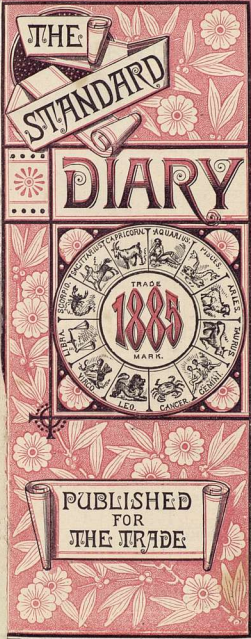
Patent Erasable Surface.

[Patented October 24, 1903.]

Use a soft Pencil, and erase with a damp woolen cloth.

Adiantum 13-
 Hieracium 10+
 Pentstemon $20 + 30 + 00 = 50$
 Salix (St. E) 25-
 Panicum 16-
 Salix (Slender) $23 + 8 + 8 + 01 = 54$
 Samolus (30) 13+
 Eucnemis 8+1-
 "Marygold" 13+50
 Abutilon 22+25-
 Crucifer 22+11+6+1-
 Muehlenbergia 32-
 Woodsia 22+15-

C. G. Pringle,
 Charlotte,
 Vermont,
 U.S.A.,
 Collector in Botany
 for
 U.S. National Museum,
 Harvard University,
 etc., etc.



CALENDAR.

1885.

JANUARY.

S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.
..	..	..	..	1	2	3	..	..	..	1	2	3	4
4	5	6	7	8	9	10	5	6	7	8	9	10	11
11	12	13	14	15	16	17	12	13	14	15	16	17	18
18	19	20	21	22	23	24	19	20	21	22	23	24	25
25	26	27	28	29	30	31	26	27	28	29	30	31	..

JULY.

FEBRUARY.

S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.
..	..	..	..	..	..	..	..	..	..	..	..	..	1
1	2	3	4	5	6	7	2	3	4	5	6	7	8
8	9	10	11	12	13	14	9	10	11	12	13	14	15
15	16	17	18	19	20	21	16	17	18	19	20	21	22
22	23	24	25	26	27	28	23	24	25	26	27	28	29
..	..	..	..	..	..	..	30	31	..	..	..	..	..

AUGUST.

MARCH.

S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.
1	2	3	4	5	6	7	..	..	1	2	3	4	5
8	9	10	11	12	13	14	6	7	8	9	10	11	12
15	16	17	18	19	20	21	13	14	15	16	17	18	19
22	23	24	25	26	27	28	20	21	22	23	24	25	26
29	30	31	..	..	..	..	27	28	29	30	..	..	..
..

SEPTEMBER.

APRIL.

S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.
..	..	..	..	1	2	3	4	..	..	..	1	2	3
5	6	7	8	9	10	11	4	5	6	7	8	9	10
12	13	14	15	16	17	18	11	12	13	14	15	16	17
19	20	21	22	23	24	25	18	19	20	21	22	23	24
26	27	28	29	30	..	..	25	26	27	28	29	30	31
..

OCTOBER.

MAY.

S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.
..	..	..	..	1	2	3	4	1	2	3	4	5	6
7	8	9	10	11	12	13	8	9	10	11	12	13	14
15	16	17	18	19	20	21	15	16	17	18	19	20	21
22	23	24	25	26	27	28	22	23	24	25	26	27	28
29	30	31	..	..	..	..	29	30	..	..	..	..	..
..

NOVEMBER.

JUNE.

S.	M.	T.	W.	T.	F.	S.	S.	M.	T.	W.	T.	F.	S.
..	..	..	..	1	2	3	4	1	2	3	4	5	6
7	8	9	10	11	12	13	6	7	8	9	10	11	12
14	15	16	17	18	19	20	13	14	15	16	17	18	19
21	22	23	24	25	26	27	20	21	22	23	24	25	26
28	29	30	..	..	..	..	27	28	29	30	31	..	..
..

DECEMBER.

WEIGHTS AND MEASURES.

MEASURE OF LENGTH.

4.. In. make 1 Hand.	3 Feet make 1 Yard.
7-92 In. " 1 Link.	5½ Yds. " 1 Rod or Pole
18.. In. " 1 Cubit.	40 Poles " 1 Furlong.
12.. In. " 1 Foot.	8 Fur. " 1 Mile.
6.. Ft. " 1 Fathom.	69 1-6 Miles make 1 Degree.
60 Geographical Miles make 1 Degree.	
1760 Yards	} = 1 Mile.
5280 Feet	

MEASURE OF SURFACE.

144 Square Inches make 1 Square Foot.	1 Square Foot.
9 Square Feet " 1 Square Yard.	1 Square Yard.
30¼ Square Yards " 1 Rod, Perch or Pole.	1 Rod, Perch or Pole.
40 Square Rods " 1 Square Rood.	1 Square Rood.
4 Square Roods " 1 Square Acre.	1 Square Acre.
10 Square Chains " 1 Square Acre.	1 Square Acre.
640 Square Acres " 1 Square Mile.	1 Square Mile.
Gunter's Chain equal to 22 Yards or 100 Links.	
27¼ Square Feet make 1 Square Rod.	
43,560 Square Feet " 1 Acre.	

MEASURE OF SOLIDITY.

1728 Cubic Inches make 1 Cubic Foot.	1 Cubic Foot.
27 Cubic Feet " 1 Cubic Yard.	1 Cubic Yard.

AVOIRDUPOIS WEIGHT.

27¼ Grains make 1 Drachm (dr.) or 27¼ Grains.	1 Drachm (dr.) or 27¼ Grains.
16 Drachms " 1 Ounce (oz.) or 437½ "	1 Ounce (oz.) or 437½ "
16 Ounces " 1 Pound (lb.) or 7000 "	1 Pound (lb.) or 7000 "
28 Pounds " 1 Quarter (qr.)	1 Quarter (qr.)
4 Quarters " 1 Hundred-Weight (cwt.)	1 Hundred-Weight (cwt.)
20 Cwts. " 1 Ton.	1 Ton.
2240 Pounds " 1 Ton.	1 Ton.

TROY WEIGHT.

24 Grains make 1 Pennyweight, or 24 Grains.	1 Pennyweight, or 24 Grains.
20 Pennywts. " 1 Ounce, or 480 "	1 Ounce, or 480 "
12 Ounces " 1 Pound, or 5760 "	1 Pound, or 5760 "

APOTHECARIES' WEIGHT.

20 Grains make 1 Scruple.	8 Drachms make 1 Ounce.
3 Scruples " 1 Drachm.	12 Ounces " 1 Pound.

DIAMOND WEIGHT.

16 Parts make 1 Grain (4-5ths Grain Troy.)	1 Grain (4-5ths Grain Troy.)
4 Grains " 1 Carat (3-15ths Grains Troy)	1 Carat (3-15ths Grains Troy)

LIQUID MEASURE.

4 Gills make 1 Pint.	3½ Gallons make 1 Barrel.
2 Pints " 1 Quart.	54 Gallons " 1 Hhd.
4 Quarts " 1 Gallon.	

DRY MEASURE.

8 Quarts make 1 Peck.	8 Bushels make 1 Quarter.
4 Pecks " 1 Bushel.	36 Bushels " 1 Chaldron.
1 Bushel equal to 28½ cubic in. nearly.	

WEIGHT PER BUSHEL OF GRAIN, ETC.

The following Table shows the number of pounds per bushel required, by law or custom, in the sale of articles specified, in the several States of the Union.

STATES.	Barley.	Buckwheat.	Coal.	Corn, shd.	Corn Meal.	Onions.	Oats.	Potatoes.	Rye.	Wheat.	Salt.	Turnips.	Beans, wh.	Clover, sd.	Timothy.
Maine.....	48	48	..	56	50	52	30	60	..	60	..	50	64	..	..
N. Hampshire	..	..	..	56	50	..	30	60	56	60	..	..	60	..	..
Vermont.....	48	48	..	..	..	..	32	60	56	60	70	..	64	60	43
Massachusetts	48	48	..	56	50	52	32	60	56	60	..	..	..	..	..
Connecticut..	..	45	..	56	..	..	28	60	56	60	..	..	..	..	..
New York....	48	48	..	58	..	..	32	60	56	60	..	..	64	60	44
New Jersey..	48	50	..	56	..	..	30	60	56	60	..	..	..	64	..
Pennsylvania.	47	48	..	56	..	..	30	56	56	60	85	..	..	62	..
Delaware.....	..	..	..	56	..	..	..	56	..	60	..	..	..	..	..
Maryland.....	48	48	..	56	..	57	32	60	56	60	56	..	62	64	45
Dist. Columbia	47	48	..	56	48	57	32	56	56	60	50	53	62	60	45
Virginia.....	48	48	..	56	50	..	32	60	56	60	..	56	60	64	45
West Virginia.	48	52	80	56	48	..	32	60	56	60	..	60	60	60	45
North Carolina	48	50	..	54	46	..	30	..	56	60	..	..	64	..	..
South Carolina	48	56	80	56	50	57	33	60	56	60	50	..	60	60	..
Georgia.....	40	..	80	56	48	75	35	56	..	60	56	..	60	60	45
Louisiana.....	32	..	..	56	..	..	32	..	32	60	..	..	..	..	..
Arkansas.....	48	52	80	56	50	57	32	60	56	60	50	..	60	60	45
Tennessee....	48	50	..	56	50	56	32	60	56	60	..	..	60	..	45
Kentucky.....	48	52	..	56	50	57	33	56	56	60	50	..	60	60	45
Ohio.....	48	50	..	56	..	..	32	60	56	60	..	..	60	60	45
Michigan.....	48	48	80	56	..	54	32	60	56	60	56	58	60	60	45
Indiana.....	48	50	70	56	50	48	32	60	56	60	50	..	60	60	..
Illinois.....	48	52	..	56	48	57	32	60	56	60	50	..	60	60	..
Wisconsin.....	48	50	..	56	..	..	32	60	56	60	..	..	60	..	..
Minnesota....	48	42	..	56	..	..	32	60	56	60	..	..	60	..	..
Iowa.....	48	52	..	56	..	57	33	60	56	60	50	..	60	60	45
Missouri.....	48	52	..	56	..	57	32	60	56	60	50	..	60	60	45
Kansas.....	50	50	..	56	50	57	32	60	56	60	50	55	60	..	45
Nebraska.....	48	52	..	56	50	57	34	60	56	60	50	55	60	60	45
California.....	50	40	..	52	..	..	32	..	54	60	..	..	..	..	..
Oregon.....	46	42	..	56	..	..	56	60	56	60	..	..	..	..	60

INTEREST TABLE.

SIX PER CENT.

TIME.	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$100	\$1000
1 DAY.	0	0	0	0	0	0	0	0	0	0	2	17
2 "	0	0	0	0	0	0	0	0	0	0	3	33
3 "	0	0	0	0	0	0	0	0	0	0	5	50
4 "	0	0	0	0	0	0	0	0	0	0	7	67
5 "	0	0	0	0	0	0	0	0	0	0	8	83
6 "	0	0	0	0	0	0	0	0	0	0	10	100
7 "	0	0	0	0	0	0	0	0	0	0	12	117
8 "	0	0	0	0	0	0	0	0	0	0	14	133
9 "	0	0	0	0	0	0	0	0	0	0	15	150
10 "	0	0	0	0	0	0	0	0	0	0	17	167
11 "	0	0	0	0	0	0	0	0	0	0	18	183
12 "	0	0	0	0	0	0	0	0	0	0	20	200
13 "	0	0	0	0	0	0	0	0	0	0	22	217
14 "	0	0	0	0	0	0	0	0	0	0	23	233
15 "	0	0	0	0	0	0	0	0	0	0	25	250
16 "	0	0	0	0	0	0	0	0	0	0	27	267
17 "	0	0	0	0	0	0	0	0	0	0	28	283
18 "	0	0	0	0	0	0	0	0	0	0	30	300
19 "	0	0	0	0	0	0	0	0	0	0	33	317
20 "	0	0	0	0	0	0	0	0	0	0	33	333
21 "	0	0	0	0	0	0	0	0	0	0	35	350
22 "	0	0	0	0	0	0	0	0	0	0	37	367
23 "	0	0	0	0	0	0	0	0	0	0	38	383
24 "	0	0	0	0	0	0	0	0	0	0	40	400
25 "	0	0	0	0	0	0	0	0	0	0	42	417
26 "	0	0	0	0	0	0	0	0	0	0	43	433
27 "	0	0	0	0	0	0	0	0	0	0	45	450
28 "	0	0	0	0	0	0	0	0	0	0	47	467
29 "	0	0	0	0	0	0	0	0	0	0	48	483
1 MON.	1	1	2	2	3	3	4	4	5	5	50	500
2 "	1	2	3	4	5	6	7	8	9	10	100	1000
3 "	2	3	5	6	8	9	11	12	14	15	150	1500
4 "	2	4	6	8	10	12	14	16	18	20	200	2000
5 "	3	5	8	10	13	15	18	20	23	25	250	2500
6 "	3	6	9	12	15	18	21	24	27	30	300	3000
7 "	4	7	11	14	18	21	25	28	32	35	350	3500
8 "	4	8	12	16	20	24	28	32	36	40	400	4000
9 "	5	9	14	18	23	27	32	36	41	45	450	4500
10 "	5	10	15	20	25	30	35	40	45	50	500	5000
11 "	6	11	17	22	28	33	39	44	50	55	550	5500
1 YEAR.	6	12	18	24	30	36	42	48	54	60	600	6000

SEVEN PER CENT.

TIME.	\$1	\$2	\$3	\$4	\$5	\$6	\$7	\$8	\$9	\$10	\$100	\$1000
4 DAYS.	0	0	0	0	0	0	1	1	1	1	8	78
8 "	0	0	0	1	1	1	1	1	1	2	16	159
12 "	0	0	0	1	1	1	1	2	2	2	23	233
16 "	0	0	1	1	2	2	2	3	3	3	31	311
20 "	0	0	1	2	2	3	3	4	4	4	39	389
24 "	0	0	1	2	2	3	3	4	4	5	47	467
28 "	1	2	2	3	3	4	4	5	5	5	54	544
1 MON.	1	2	2	3	4	4	5	5	6	6	65	653
2 "	1	2	3	4	5	6	7	8	9	11	117	1167
3 "	2	4	5	7	9	11	12	14	16	18	175	1750
4 "	2	5	7	9	12	14	16	18	21	23	233	2333
5 "	3	6	9	12	15	18	20	23	26	29	292	2917
6 "	4	7	11	14	18	21	25	28	32	35	350	3500
7 "	4	8	12	16	20	23	27	31	35	40	400	4000
8 "	5	9	14	18	23	28	33	37	42	47	467	4667
9 "	5	10	15	20	25	30	35	40	45	50	500	5000
10 "	6	12	18	23	29	35	41	47	53	58	583	5833
11 "	6	13	19	26	32	39	45	51	58	64	642	6417
1 YEAR.	7	14	21	28	35	42	49	56	63	70	700	7000

RATE OF INCOME ON INVESTMENTS.

Par value being \$100, bearing interest at

Price Paid.	5%	6%	7%	8%	10%
\$50	10.00	12.00	14.00	16.00	20.00
55	9.09	10.90	12.72	14.55	18.18
60	8.33	10.00	11.66	13.33	16.66
65	7.69	9.23	10.76	12.30	15.38
70	7.14	8.57	10.00	11.42	14.28
75	6.66	8.00	9.33	10.66	13.35
80	6.25	7.50	8.75	10.00	12.50
82½	6.06	7.27	8.48	9.69	12.12
85	5.88	7.05	8.23	9.41	11.76
87½	5.71	6.85	8.00	9.14	11.42
90	5.55	6.66	7.77	8.88	11.11
92½	5.40	6.48	7.56	8.64	10.80
95	5.26	6.31	7.36	8.42	10.52
96	5.20	6.25	7.29	8.33	10.41
97	5.15	6.18	7.21	8.24	10.30
97½	5.12	6.15	7.17	8.20	10.25
98	5.10	6.12	7.14	8.16	10.20
99	5.05	6.06	7.07	8.08	10.10
100	5.00	6.00	7.00	8.00	10.00
101	4.95	5.94	6.93	7.92	9.90
102	4.90	5.88	6.86	7.84	9.80
103	4.85	5.82	6.79	7.76	9.70
104	4.80	5.76	6.73	7.69	9.61
105	4.76	5.71	6.66	7.61	9.52
110	4.54	5.45	6.36	7.27	9.09
115	4.34	5.21	6.08	6.95	8.66
120	4.16	5.00	5.83	6.66	8.33
125	4.00	4.80	5.60	6.40	8.00
130	3.84	4.61	5.38	6.15	7.69
135	3.70	4.44	5.18	5.92	7.40
140	3.57	4.28	5.00	5.71	7.14
145	3.44	4.13	4.82	5.51	6.89
150	3.33	4.00	4.66	5.33	6.66

TO ASCERTAIN THE LENGTH OF THE DAY AND NIGHT.

At any time of the year add 12 hours to the time of the sun's setting, and from the sum subtract the time of rising for the length of the day. Subtract the time of setting from 12 hours, and to the remainder add the time of rising next morning for the length of the night. These rules are equally true for apparent time.

RATES OF POSTAGE.

POSTAL CARDS, 1 cent each, go without further charge to all parts of the United States and Canada. Cards for foreign countries (within the Postal Union) 2 cts. each.

ALL LETTERS, to all parts of the United States and Canada, 2 cents for each half ounce or fraction thereof.

LOCAL, OR "DROP" LETTERS, that is, for the city or town where deposited, 2 cents where the carrier system is adopted, and 1 cent where there is no carrier system.

FIRST CLASS.—Letters and all other written matter, *whether sealed or unsealed*, and all other matter *sealed, nailed, sewed, tied, or fastened in any manner* so that it cannot be easily examined, 2 cents for each half ounce or fraction thereof. Postal Cards, 1 cent each. *Postal Cards are unavailable with any writing or printing on the address side except the direction, or with anything pasted upon or attached to them.*

SECOND CLASS.—Only for publishers and news agents, 2 cents per pound.

THIRD CLASS.—Printed matter, in *unsealed wrappers only* (all matter inclosed in notched envelopes must pay letter rates), 1 cent for each 2 ounces or fraction thereof, *which must be fully prepaid.* This includes books, circulars, chromos, engravings, handbills, lithographs, magazines, music, newspapers, pamphlets, photographs, proof-sheets and manuscript accompanying the same, reproductions by the electric pen, hektograph, metallograph, papyrograph, and, in short, any reproduction upon paper by any process *except handwriting and the copying press.* Limit of weight 4 lbs., except for a single book, which may weigh more.

FOURTH CLASS.—All mailable matter not included in the three preceding classes which is so prepared for mailing as to be *easily withdrawn from the wrapper* and examined. Rate, 1 cent per ounce or fraction thereof. Limit of weight, 4 lbs. Full prepayment compulsory.

REFORWARDING.—Letters will be forwarded from one post office to another upon the *written request of the person addressed*, without additional postage charge; but unclaimed packages *cannot be returned to the sender* until stamps are furnished to pay the return postage.

PERMISSIBLE WRITING.—No writing is permitted on third or fourth class matter except as follows: The name and address of sender on the outside or inside of package, preceded by the word "from." On the wrapper may also be written the names and number of articles inclosed. The sender is further allowed to mark a word or passage in a book or paper to which he desires to call special attention. He may also write a simple inscription or dedication upon the cover or blank leaves of a book or pamphlet. There may be attached to articles of merchan-

RATES OF POSTAGE.

dise, by tag or label, a mark, number, name, or letter for purpose of identification. Printed circulars may contain the written name of the sender, or of the addressee, and the date. Any other writing on third or fourth class matter will subject the package to letter rates of postage, and render the sender liable to a fine of ten dollars for each offense. Printed matter may be inclosed with fourth class matter, but the whole package is subject to the rate of 1 cent per ounce or fraction thereof.

FOREIGN POSTAGE.

The following are the postal rates with Europe. The rates for letters are for the half ounce or fraction thereof, and those for newspapers for 2 ounces or fraction thereof:—

To Great Britain and Ireland, France, Spain, all parts of Germany, including Austria, Denmark, Switzerland, Italy, Russia, Norway, Sweden, Turkey (European and Asiatic), Egypt, letters 5 cents, newspapers 1 cent for each 2 ounces or fraction thereof.

To Australia, letters, via San Francisco (except to New South Wales), 5 cents; via Brindisi, 15 cents; newspapers, via San Francisco, 2 cents; via Brindisi, 4 cents. China, letters, via San Francisco, 5 cents; via Brindisi, 13 cents; 4 cents for each paper not weighing over 4 ounces. British India, Italian mail, letters 5 cents, newspapers 1 cent for 2 ounces. Japan, letters, via San Francisco, 5 cents; newspapers, 1 cent for 2 ounces.

POSTAL NOTES.

Upon payment of a fee of 3 cents each, Postal Notes for any amount under Five Dollars may be purchased at any Money-order Office, payable to bearer at any time within three calendar months from the last day of the month during which it was issued; but payable *only* at such Money-order Office as the purchaser may select or at the office of issue.

MONEY ORDERS.

For Orders not exceeding \$10	8 cents.
Exceeding \$10 and not exceeding \$15	10 "
" 15 " " " "	30 " 15 "
" 30 " " " " "	40 " 20 "
" 40 " " " " "	50 " 25 "
" 50 " " " " "	60 " 30 "
" 60 " " " " "	70 " 35 "
" 70 " " " " "	80 " 40 "
" 80 " " " " "	100 " 45 "

When a larger sum than \$100 is required, additional Orders to make it up must be obtained.

NEW STANDARD TIME.

THE CALCULATIONS OF THIS ALMANAC ARE GIVEN, AS HERETOFORE, IN LOCAL MEAN TIME.

To change to the **New Standard Time** apply a *plus* or *minus* correction, which is to be found by subtracting the adopted "Division" or "Standard" longitude of the place from its Greenwich longitude reduced to time.

For example: the "Division" longitude adopted for Boston is 75°, or 5 hours; which subtracted from its actual longitude of 71° 4', or 4h. 44m., gives a correction of (— 3° 56'), 16 minutes to be *subtracted* from the printed values for Boston.

Again: the "Division" longitude of Omaha is 6 hours, which subtracted from Omaha's longitude of 6h. 24m., leaves a correction of 24 minutes to be *added*, in order to change to Omaha's standard.

Correction for the following Cities.

Eastern Standard. 75° Longitude.	Central Standard. 90° Longitude.
Minutes.	Minutes.
Bangor, Me. 25	Cleveland, Ohio. 33
Augusta, Me. 21	Columbus, Ohio. 28
Portland, Me. 19	Detroit, Mich. 28
Boston, Mass. 16	Toledo, Ohio. 26
Newport, R. I. 15	Dayton, Ohio. 23
Providence, R. I. 14	Cincinnati, Ohio. 22
Concord, N. H. 14	Louisville, Ky. 18
New London, Conn. 11	Indianapolis, Ind. 16
Springfield, Mass. 10	Chicago, Ill. 10
Montpelier, Vt. 10	Milwaukee, Wis. 8
Hartford, Conn. 9	Springfield, Ill. 2
Montreal, Que. 6	Memphis, Tenn. 0
Albany, N. Y. 5	New Orleans, La. 0
New York, N. Y. 4	St. Louis, Mo. + 1
Utica, N. Y. + 1	Rock Island, Ill. + 3
Philadelphia, Pa. + 3	Dubuque, Iowa. + 3
Syracuse, N. Y. + 5	Burlington, Iowa. + 5
Baltimore, Md. + 6	St. Paul, Minn. + 12
Washington, D. C. + 8	Des Moines, Iowa. + 14
Rochester, N. Y. + 11	Kansas City, Mo. + 18
Buffalo, N. Y. + 16	Galveston, Texas. + 19
Pittsburg, Pa. + 20	Omaha, Neb. + 24

Mountain Standard. 105° Longitude.	Pacific Standard. 120° Longitude.
Denver, Col. 0	Sacramento, Cal. + 6
Salt Lake City, Utah, + 28	San Francisco, Cal. + 10

POPULATION OF THE UNITED STATES.

CENSUS OF 1880.

Alabama	1,262,505	Ohio	3,198,062
Arkansas	802,525	Oregon	174,768
California	864,594	Pennsylvania	4,282,361
Colorado	194,327	Rhode Island	276,531
Connecticut	622,700	South Carolina	595,577
Delaware	146,608	Tennessee	1,542,359
Florida	269,493	Texas	1,591,749
Georgia	1,542,180	Vermont	123,286
Illinois	3,077,871	Virginia	1,612,565
Indiana	1,978,301	West Virginia	618,457
Iowa	1,624,615	Wisconsin	1,215,497
Kansas	996,096	Total States	49,371,340
Kentucky	1,043,590	THE TERRITORIES.	
Louisiana	939,946	Alaska	—
Maine	648,936	Arizona	40,410
Maryland	934,943	Dakota	135,177
Massachusetts	1,783,085	Dist. of Columbia	177,624
Michigan	1,036,937	Idaho	32,610
Minnesota	780,773	Montana	30,159
Mississippi	1,131,515	New Mexico	110,565
Missouri	2,168,380	Utah	143,963
Nebraska	452,402	Washington	75,116
Nevada	62,266	Wyoming	20,789
New Hampshire	346,991	Total Territories	784,443
New Jersey	1,131,116	Total U. S.	50,155,783
New York	5,682,571		
North Carolina	1,399,759		

POPULATION OF PRINCIPAL CITIES.

Cities having a population of 30,000 and upward, according to the United States Census of 1880.

Rank.	Rank.
21 Albany, N. Y. 96,758	38 Minn'ap'lis, Minn. 66,887
22 Allegheny, Pa. 78,682	40 Nashville, Tenn. 41,350
49 Atlanta, Ga. 37,409	15 Newark, N. J. 136,968
7 Baltimore, Md. 332,313	26 N. Haven, Conn. 62,882
5 Boston, Mass. 362,839	10 New Orleans, La. 216,090
3 Brooklyn, N. Y. 566,661	1 N. York, N. Y. 1,206,299
13 Buffalo, N. Y. 155,134	51 Oakland, Cal. 34,555
31 Cambridge, Mass. 52,918	63 Omaha, Neb. 30,518
44 Camden, N. J. 41,659	34 Patterson, N. J. 51,031
36 Charleston, S. C. 49,984	2 Philadelphia, Pa. 847,170
4 Chicago, Ill. 503,185	12 Pittsburg, Pa. 156,839
8 Cincinnati, Ohio. 255,139	33 Portland, Me. 33,810
11 Cleveland, Ohio. 160,146	20 Providence, R. I. 139,857
32 Columbus, Ohio. 64,747	41 Reading, Pa. 43,278
47 Dayton, Ohio. 38,678	23 Richmond, Va. 63,600
50 Denver, Col. 35,629	28 Rochester, N. Y. 89,366
16 Detroit, Mich. 116,340	9 S'n Francisco, Cal. 233,959
37 Fall River, Mass. 48,961	62 Savannah, Ga. 30,709
58 Grd Rapids, Mich. 32,016	39 Scranton, Pa. 45,850
60 Harrisburg, Pa. 30,762	15 Springfield, Mass. 33,240
43 Hartford, Conn. 42,015	37 St. Joseph, Mo. 34,431
9 Hoboken, N. J. 30,999	6 St. Louis, Mo. 350,518
24 Indianapolis, Ind. 75,056	5 St. Paul, Minn. 41,473
17 Jersey City, N. J. 120,722	32 Syracuse, N. Y. 51,792
30 Kansas City, Mo. 55,785	35 Toledo, Ohio. 50,137
46 Lawrence, Mass. 39,151	64 Trenton, N. J. 29,910
16 Louisville, Ky. 123,758	29 Troy, N. Y. 56,747
27 Lowell, Mass. 59,475	52 Utica, N. Y. 33,914
48 Lynn, Mass. 38,274	14 Wash'gton, D.C. 147,293
56 Manchester, N. H. 32,630	61 Wheeling, W. Va. 30,737
54 Memphis, Tenn. 33,592	42 Wilmington, Del. 24,478
19 Milwaukee, Wis. 115,587	27 Worcester, Mass. 52,291

TIDE TABLE

FOR OBTAINING TIME OF HIGH WATER FOR PLACES
ON THE EASTERN COAST OF THE UNITED STATES.

(The following values are derived from late determinations of the United States Coast Survey.)

To find the time of High Water at any of the following places, add or subtract the hours and minutes opposite the name of place in the following Table, to or from the hours and minutes of High Water at New York for the required day, as found in the *Calendar Page*.

		h.	m.
Portland, Maine.....	add	3	12
Portsmouth, New Hampshire.....	"	3	10
Newburyport, Massachusetts.....	"	3	9
Salem, ".....	"	3	0
Nantucket, ".....	"	4	11
Holmes Hole, ".....	"	3	30
Wood's Hole, S. Side, ".....	"	0	21
New Bedford Entrance (Dumpling Rock), Mass.....	sub.	0	16
Newport, Rhode Island.....	"	0	28
Point Judith, ".....	"	0	41
Sandy Hook, New Jersey.....	"	0	44
Watch Hill, Rhode Island.....	add	0	47
Stonington, Connecticut.....	"	0	54
New London, ".....	"	1	15
New Haven, ".....	"	3	3
Bridgeport, ".....	"	2	58
Throg's Neck, New York.....	"	3	7
Cape May Landing, New Jersey.....	"	0	6
Newcastle.....	"	3	40
Philadelphia, Pennsylvania.....	sub.	6	55
Annapolis, Maryland.....	"	3	35
Baltimore, ".....	"	1	40
Richmond, Virginia.....	"	3	41
Hatteras Inlet, North Carolina.....	"	1	9
Beaufort, ".....	"	0	47
Charleston (C. H. Wharf), S. C.....	"	0	47
Fort Pulaski (Savannah Ent.), Ga.....	"	0	53
Savannah (Dry Dock Wharf), Ga.....	"	0	0
St. Augustine, Florida.....	add	0	8
Key West, ".....	"	1	9
Tampa Bay (Egmont Key), Fla.....	"	3	8
Cedar Keys (Depot Key), Fla.....	"	5	2

INTEREST LAWS OF ALL THE STATES.

STATES & TERRITORIES.	PENALTY OF USURY.	Legal.	Special.
Alabama,	Loss of interest.	8	.....
Arizona,	No penalty.	10	No limit.
Arkansas,	" "	6	" "
California,	" "	10	" "
Colorado,	" "	10	" "
Connecticut,	Forfeiture of all interest.	7	" "
Dacotah,	" " contract.	7	18 per ct.
Delaware,	" " "	6	6 per ct.
District of Col.	" " all interest.	6	10 per ct.
Florida,	No penalty.	8	No limit.
Georgia,	Forfeiture of excess.	7	12 per ct.
Idaho,	\$300 fine or imp't 6 mos. or both.*	10	24 per ct.
Illinois,	Forfeiture of all interest.	6	10 per ct.
Indiana,	" " interest and costs.	6	10 per ct.
Iowa,	" " excess.	6	10 per ct.
Kansas,	" " over 12 per ct.	7	12 per ct.
Kentucky,	" " all interest.	6	10 per ct.
Louisiana,	" " interest.	3	8 per ct.
Maine,	No penalty.	6	No limit.
Maryland,	Forfeiture of excess.	6	6 per ct.
Massachusetts,	No penalty—8 per ct. on judg'ts.	6	No limit.
Michigan,	Forfeiture of excess.	7	10 per ct.
Minnesota,	" " over 7 per ct.	7	12 per ct.
Mississippi,	Forfeiture of all interest.	6	10 per ct.
Missouri,	Forfeiture of all interest.	6	10 per ct.
Montana,	No penalty.	10	.....
Nebraska,	Forfeiture of all interest & costs.	10	12 per ct.
Nevada,	No penalty.	10	No limit.
N. Hampshire,	Forfeit of three times int. rec'd.	6	6 per ct.
New Jersey,	Forfeit of all interest.	7	7 per ct.
New Mexico,	No penalty.	6	12 per ct.
New York,	Forfeiture of contract.†	6	6 per ct.
North Carolina,	Forfeiture of interest.	6	8 per ct.
Ohio,	" " excess.	6	8 per ct.
Oregon,	" " prin., int. & costs.	10	12 per ct.
Pennsylvania,	" " excess, Act of 1853.	6	6 per ct.
Rhode Island,	" " unless by contract.†	6	No limit.
South Carolina,	No penalty.	10	" "
Tennessee,	Forfeit of over 6 p. c. & \$100 fine.	6	10 per ct.
Texas,	No penalty.	8	No limit.
Utah,	" "	10	" "
Vermont,	Forfeit of excess on R. R. bonds.	6	7 per ct.
Virginia,	" " contract.	6	12 per ct.
Washington,	No penalty.	10	No limit.
West Virginia,	Forfeit of excess.	6	6 per ct.
Wisconsin,	" " all interest.	7	10 per ct.
Wyoming,	No penalty.	10	No limit.

* Liable to arrest for misdemeanor.

† Also punishable as a misdemeanor. Banks forfeit interest only, or double the interest if charged in advance.

‡ Also 6 per cent. on judgments.

SHORT METHOD FOR CALCULATING INTEREST.

Multiply the principal by as many hundreds as there are days, and

For 4 per cent	Divide by 90
" 5 "	" 72
" 6 "	" 60
" 7 "	" 52
" 8 "	" 45
" 9 "	" 40
" 10 "	" 36
" 12 "	" 30

EXAMPLE—INTEREST ON \$50 for 30 days at 4%.
50 x .30 = 15.00, which divided by 90 = 16 $\frac{2}{3}$ cents—the required result.

FESTIVALS AND FASTS.

Epiphany	Jan. 6
Septuagesima Sunday	Feb. 1
Quinquagesima—Shrove Sunday	Feb. 15
Ash Wednesday	Feb. 18
First Sunday in Lent	Feb. 22
St. Patrick	Mar. 17
Palm Sunday	Mar. 29
Good Friday	April 3
Easter Sunday	April 5
Low Sunday	April 12
Rogation Sunday	May 10
Ascension Day—Holy Thursday	May 14
Pentecost—Whit Sunday	May 24
Trinity Sunday	May 31
Corpus Christi	June 4
St. John Baptist	June 24
Michaelmas Day	Sept. 29
First Sunday in Advent	Nov. 29
St. Andrew	Nov. 30
Christmas Day	Dec. 25

CHRONOLOGICAL CYCLES.

Domical Letter	D
Epact	14
Lunar Cycle, or Golden Number	5
Solar Cycle	18
Roman Indiction	13
Julian Period	6998

THE SEASONS.

Vernal Equinox,	March 20, 5h. A. M.
Summer Solstice,	June 21, 5h. A. M.
Autumnal Equinox,	Sept. 22, 4h. P. M.
Winter Solstice,	Dec. 21, 10h. A. M.

Given in Washington time:

ECLIPSES FOR THE YEAR.

In the year 1885 there will be four Eclipses; two of the Sun and two of the Moon.

I. AN ANNULAR ECLIPSE OF THE SUN, March 16.
Visible to North America generally as a partial Eclipse; being annular only within a belt thirty-five miles wide, drawn through Weaverville and Fort Bidwell, California; Idaho and Boise cities, Idaho; Bannack City and Gallatin, Montana; and the centres of Hudson Bay and Greenland; occurring as follows:—

	Eclipse Begins.	Eclipse Ends.
Boston	0h. 30m. A.	3h. 0m. A.
New York	0h. 17m. A.	2h. 50m. A.
Chicago	10h. 55m. M.	1h. 40m. A.
Philadelphia	0h. 9m. A.	2h. 42m. A.
Washington	11h. 28m. M.	2h. 33m. A.
Charleston	11h. 37m. M.	2h. 43m. A.
New Orleans	10h. 28m. M.	1h. 58m. A.
St. Louis	10h. 32m. M.	1h. 13m. A.
Denver	9h. 10m. M.	0h. 14m. A.
Salt Lake	8h. 52m. M.	11h. 24m. A.

II. A PARTIAL ECLIPSE OF THE MOON, March 30.
Invisible. Visible to Asia, Australia, eastern portions of Europe and Africa, and the western Pacific Ocean.

III. A TOTAL ECLIPSE OF THE SUN, September 8.
Visible chiefly to the South Pacific Ocean.

IV. A PARTIAL ECLIPSE OF THE MOON, September 23-24. Visible to North and South America, and the Atlantic and Pacific Oceans; happening as follows:—

	BOSTON.	NEW YORK.	CHICAGO.
	P. H. M.	P. H. M.	P. H. M.
Moon enters Penumbra	24 0 10 M.	24 0 4 M.	23 11 10 A.
Moon enters Shadow	24 1 30 M.	24 1 18 M.	24 0 24 M.
Middle of Eclipse	24 3 4 M.	24 2 32 M.	24 1 58 M.
Moon leaves Shadow	24 4 28 M.	24 4 39 M.	24 2 32 M.
Moon leaves Penumbra	24 5 32 M.	24 5 40 M.	24 4 40 M.

Magnitude of Eclipse = 0.799, (Moon's diameter = 1).

MORNING AND EVENING STARS.

MERCURY will be Morning Star about January 26, May 25, and September 15; and Evening Star about April 8, August 6, and November 30.

VENUS will be Morning Star till May 4; then Evening Star the rest of the year.

JUPITER will be Morning Star till February 18; then Evening Star till September 8; and Morning Star again the rest of the year.

MOON'S PERIGEE AND APOGEE.

	DAY.	MOOR.
JANUARY. . .	APOGEE.....13....	4 A. M.
	PERIGEE.....28....	9 P. M.
FEBRUARY. .	APOGEE.....9....	7 P. M.
	PERIGEE.....25....	6 P. M.
MARCH. . . .	APOGEE.....9....	3 P. M.
	PERIGEE.....23....	4 P. M.
APRIL.	APOGEE.....6....	11 A. M.
	PERIGEE.....18....	10 A. M.
MAY.	APOGEE.....4....	5 A. M.
	PERIGEE.....16....	5 A. M.
	APOGEE.....31....	7 P. M.
JUNE.	PERIGEE.....13....	11 A. M.
	APOGEE.....28....	1 A. M.
JULY.	PERIGEE.....11....	8 P. M.
	APOGEE.....25....	4 A. M.
AUGUST. . . .	PERIGEE.....9....	5 A. M.
	APOGEE.....21....	1 P. M.
SEPTEMBER.	PERIGEE.....6....	9 A. M.
	APOGEE.....18....	5 A. M.
OCTOBER. . .	PERIGEE.....3....	6 P. M.
	APOGEE.....16....	1 A. M.
	PERIGEE.....28....	3 P. M.
NOVEMBER..	APOGEE.....12....	9 P. M.
	PERIGEE.....24....	4 P. M.
DECEMBER..	APOGEE.....10....	5 P. M.
	PERIGEE.....22....	8 P. M.



MOON'S PHASES.	BOSTON.	NEW YORK.
FULL MOON....	1d. 0h. 42m. M.	1d. 0h. 30m. M.
LAST QUARTER.	7d. 10h. 32m. A.	7d. 10h. 40m. A.
NEW MOON.....	16d. 3h. 52m. M.	16d. 3h. 40m. M.
FIRST QUARTER.	23d. 8h. 42m. A.	23d. 8h. 30m. A.
FULL MOON....	30d. 11h. 32m. M.	30d. 11h. 20m. M.

BOSTON & CHICAGO						N. YORK & PHILA.					
Do	M	Day of Wk	Sun R.& H. M.	Moon R.& H. M.	Bost. Tide. H. M.	Do	M	Sun R.& H. M.	Moon R.& H. M.	N. Y. Tide. H. M.	
1	Th.	Fr	30	5 41	11 39	1	7	25	5 45	8 21	
2	Fr.	Mo	30	6 52	0	2	4	45	6 55	9	
3	Sa.	Fr	30	8	0 57	3	7	25	8	10	
4	Mo.	Fr	42	9 11	1 46	4	14	47	9 12	10	
5	Mo.	Fr	30	10 18	2 34	5	7	25	10 18	11	
6	Tu.	Fr	44	11 22	3 20	6	14	49	11 21	11	
7	We.	Fr	30	MOON.	4 8	7	7	25	MOON.	0 55	
8	Th.	Fr	46	0 23	4 59	8	14	51	0 22	1 40	
9	Fr.	Fr	29	1 23	5 53	9	7	24	1 21	2 36	
10	Sa.	Fr	48	2 22	6 48	10	14	53	2 19	3 34	
11	Sa.	Fr	28	3 18	7 43	11	7	24	3 14	4 28	
12	Mo.	Fr	50	4 11	8 35	12	14	55	4 7	5 21	
13	Tu.	Fr	28	5 1	9 26	13	7	23	5 47	6	
14	We.	Fr	53	5 49	10 13	14	14	57	5 45	6 50	
15	Th.	Fr	27	6 34	10 58	15	7	22	6 30	7 21	
16	Fr.	Fr	55	SEETS.	11 37	16	15	0	SEETS.	8 41	
17	Sa.	Fr	26	6 33	....	17	7	21	6 36	9
18	Sa.	Fr	57	7 33	0 37	18	15	2	7 35	9 43	
19	Mo.	Fr	27	8 33	1 16	19	7	20	8 34	10	
20	Tu.	Fr	55	0 34	1 57	20	15	4	9 34	11	
21	We.	Fr	23	10 37	2 38	21	7	19	10 36	11 43	
22	Th.	Fr	55	2 11	42 3 21	22	15	7	11 40	0	
23	Th.	Fr	27	MOON.	4 8	23	7	17	MOON.	0 53	
24	Sa.	Fr	55	5 0	48 5 3	24	15	9	0 46	1 50	
25	Mo.	Fr	21	1 55	6 7	25	17	16	1 52	2 53	
26	Mo.	Fr	55	7 3	2 15	26	15	11	2 58	4	
27	Th.	Fr	18	4 7	8 24	27	14	4	3 5	5	
28	We.	Fr	10	5 8	9 29	28	15	14	5 4	6	
29	Th.	Fr	16	6 2	10 30	29	17	13	5 58	7 1	
30	Fr.	Fr	13	RISES.	11 24	30	15	16	RISES.	8	
31	Sa.	Fr	14	6 47	....	31	17	11	6 49	8



MOON'S PHASES.	BOSTON.	NEW YORK.
LAST QUARTER..	6d. 5h. 53m. A.	6d. 5h. 41m. A.
NEW MOON	14d. 9h. 38m. A.	14d. 9h. 26m. A.
FIRST QUARTER..	22d. 5h. 47m. M.	22d. 5h. 35m. M.
FULL MOON	28d. 11h. 16m. A.	28d. 11h. 4m. A.

BOSTON & CHICAGO.	N. YORK & PHILA.
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D of M.	Day of Wk.	SUN R.&S H. M.	MOON R.&S H. M.	BOST. TIDE. H. M.	D of M.	SUN R.&S H. M.	MOON R.&S H. M.	N. Y. TIDE. H. M.
1	Mo.	7 13	7 57	0 35	1	7 10	7 58	9 44
2	Mo.	5 17	9 4	1 20	2	5 20	9 4	10 27
3	Tu.	7 11	10 8	2 4	3	7 10	10 7	11 9
4	We.	5 19	11 10	2 49	4	5 22	11 8	11 55
5	Th.	7 9	MORN.	3 32	5	7 6	MORN.	0 19
6	Fr.	5 22	0 10	4 21	6	5 25	0 7	1 8
7	Sa.	7 7	1 7	5 14	7	7 3	1 4	2 0
8	Mo.	5 24	2 6	6 8	8	5 27	1 58	2 54
9	Mo.	7 4	2 55	7 4	9	7 1	2 51	3 50
10	Tu.	5 27	3 44	8 2	10	5 30	3 40	4 46
11	We.	7 1	4 29	8 54	11	7 6	5 25	5 40
12	Th.	5 30	5 11	9 43	12	5 32	5 7	6 29
13	Fr.	7 58	5 50	10 29	13	7 56	5 47	7 15
14	Sa.	5 32	SETS.	11 13	14	5 35	SETS.	7 55
15	Mo.	7 56	6 25	11 51	15	7 53	6 26	8 35
16	Mo.	5 35	7 27	0 10	16	5 37	7 28	9 16
17	Tu.	7 53	8 30	0 49	17	7 51	8 30	9 56
18	We.	5 37	9 34	1 31	18	5 39	9 33	10 35
19	Th.	7 50	10 40	2 13	19	7 48	10 38	11 18
20	Fr.	5 40	11 46	2 58	20	5 42	11 43	.....
21	Sa.	7 56	MORN.	3 47	21	7 56	MORN.	0 33
22	Mo.	5 42	0 52	4 45	22	5 44	0 48	1 32
23	Mo.	7 44	1 56	5 30	23	7 42	1 52	2 36
24	Tu.	5 45	2 56	7 2	24	5 47	2 52	3 47
25	We.	7 41	3 51	8 11	25	7 39	3 47	4 55
26	Th.	5 47	4 41	9 15	26	5 49	4 38	6 1
27	Fr.	7 38	5 25	10 12	27	7 36	5 22	6 58
28	Sa.	5 50	RISES.	11 3	28	5 51	RISES.	7 46
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MOON'S PHASES.	BOSTON.	NEW YORK.
LAST QUARTER..	8d. 2h. 10m. A.	8d. 1h. 58m. A.
NEW MOON	16d. 0h. 53m. A.	16d. 0h. 41m. A.
FIRST QUARTER..	23d. 0h. 39m. A.	23d. 0h. 27m. A.
FULL MOON	30d. 11h. 56m. M.	30d. 11h. 44m. M.

BOSTON & CHICAGO.	N. YORK & PHILA.
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D of M.	Day of Wk.	SUN R.&S H. M.	MOON R.&S H. M.	BOST. TIDE. H. M.	D of M.	SUN R.&S H. M.	MOON R.&S H. M.	N. Y. TIDE. H. M.
1	Mo.	7 35	6 42	11 48	1	7 33	6 42	8 31
2	Mo.	5 52	7 48	0 10	2	5 53	7 47	9 17
3	Tu.	7 32	8 52	0 52	3	7 30	8 51	9 59
4	We.	5 54	9 55	1 34	4	5 55	9 53	10 38
5	Th.	7 28	10 55	2 16	5	7 27	10 52	11 20
6	Fr.	5 57	11 52	2 59	6	5 58	11 48	.....
7	Sa.	7 25	MORN.	3 44	7	7 24	MORN.	0 31
8	Mo.	5 59	0 46	4 34	8	5 6	0 42	1 21
9	Mo.	7 21	1 37	5 29	9	7 21	1 33	2 15
10	Tu.	5 6	1 24	6 26	10	5 6	2 20	3 12
11	We.	7 18	3 7	7 24	11	7 17	3 3	4 8
12	Th.	5 6	4 34	8 20	12	5 6	4 34	5 4
13	Fr.	7 15	4 22	9 11	13	7 14	4 19	5 56
14	Sa.	5 6	4 56	9 57	14	5 6	4 54	6 44
15	Mo.	7 11	5 29	10 42	15	7 11	5 28	7 26
16	Mo.	5 8	SETS.	11 24	16	5 9	SETS.	8 6
17	Tu.	7 6	8 7	24	17	7 6	8 7	23
18	We.	5 11	8 30	0 24	18	5 11	8 28	9 12
19	Th.	7 6	4 9	38	19	7 6	4 9	35
20	Fr.	5 13	10 45	1 52	20	5 13	10 42	10 59
21	Sa.	7 1	11 50	2 41	21	7 1	11 46	11 50
22	Mo.	5 15	MORN.	3 33	22	5 15	MORN.	0 19
23	Mo.	7 57	0 51	4 34	23	7 58	0 47	1 21
24	Tu.	5 17	1 47	5 39	24	5 17	1 43	2 26
25	We.	7 54	2 37	6 50	25	7 54	2 33	3 35
26	Th.	5 20	3 21	7 57	26	5 19	3 18	4 41
27	Fr.	7 50	4 1	8 57	27	7 51	3 59	5 43
28	Sa.	5 22	4 37	9 51	28	5 21	4 36	6 37
29	Mo.	7 47	5 12	10 40	29	7 48	5 12	7 25
30	Mo.	5 24	RISES.	11 24	30	5 23	RISES.	8 5
31	Tu.	7 43	7 39	.....	31	7 44	7 37	8 48



MOON'S PHASES.	BOSTON.				NEW YORK.			
LAST QUARTER..	7d.	9h.	53m.	M.	7d.	9h.	46m.	M.
NEW MOON	15d.	1h.	8m.	M.	15d.	0h.	56m.	M.
FIRST QUARTER..	21d.	6h.	36m.	A.	21d.	6h.	24m.	A.
FULL MOON.....	29d.	1h.	30m.	M.	29d.	1h.	18m.	M.

BOSTON & CHICAGO. N. YORK & PHILA.

Day of Wk.	SUN R.&S. H. M.	MOON R.&S. H. M.	BOST. TIDE. H. M.	Day of Wk.	SUN R.&S. H. M.	MOON R.&S. H. M.	N. Y. TIDE. H. M.
1 WE.	75 42	8 40	0 23	1 75 43	8 37	9 30	
2 TH.	76 28	9 39	1 4	2 76 26	9 36	10 11	
3 FR.	75 38	10 35	1 46	3 75 39	10 31	10 50	
4 SA.	76 30	11 28	2 29	4 76 28	11 24	11 34	
5 S.	75 35	MORN.	3 13	5 75 36	MORN.	.....
6 MO.	76 32	0 17	3 59	6 76 30	0 13	0 46	
7 TU.	75 31	1 1	4 51	7 75 33	0 57	1 38	
8 WE.	76 34	1 41	5 46	8 76 33	1 37	2 32	
9 TH.	75 28	2 19	6 42	9 75 30	2 16	3 28	
10 FR.	76 30	2 54	7 38	10 76 35	2 52	4 23	
11 SA.	75 25	3 27	8 32	11 75 27	3 25	5 17	
12 S.	76 39	3 59	9 22	12 76 37	3 58	6 8	
13 MO.	75 21	4 31	10 9	13 75 24	4 31	6 55	
14 TU.	76 41	5 5	10 55	14 76 39	5 6	7 38	
15 WE.	75 18	SETS.	11 39	15 75 20	SETS.	8 22	
16 TH.	76 43	8 31	0 1	16 76 41	8 28	9 10	
17 FR.	75 15	9 40	0 47	17 75 17	9 36	9 57	
18 SA.	76 45	10 45	1 36	18 76 43	10 41	10 45	
19 S.	75 12	11 43	2 29	19 75 14	11 39	11 39	
20 MO.	76 48	MORN.	3 23	20 76 45	MORN.	0 9	
21 TU.	75 9	0 35	4 23	21 75 11	0 31	1 10	
22 WE.	76 50	1 22	5 27	22 76 47	1 19	2 13	
23 TH.	75 6	2 2	6 32	23 75 9	2 0	3 18	
24 FR.	76 52	2 38	7 36	24 76 49	2 36	4 21	
25 SA.	75 3	3 12	8 34	25 75 6	3 11	5 18	
26 S.	76 54	3 45	9 25	26 76 51	3 45	6 11	
27 MO.	75 0	4 17	10 12	27 75 3	4 18	6 58	
28 TU.	76 56	4 48	10 58	28 76 53	4 50	7 41	
29 WE.	74 57	RISER.	11 37	29 75 0	RISER.	8 19	
30 TH.	76 59	8 24	.....	30 76 55	8 20	9 3	



MOON'S PHASES.	BOSTON.				NEW YORK.			
LAST QUARTER.	7d.	3h.	59m.	M.	7d.	3h.	47m.	M.
NEW MOON.....	14d.	10h.	33m.	M.	14d.	10h.	21m.	M.
FIRST QUARTER..	21d.	1h.	1m.	M.	21d.	0h.	49m.	M.
FULL MOON.....	28d.	3h.	47m.	A.	28d.	3h.	35m.	A.

BOSTON & CHICAGO. N. YORK & PHILA.

Day of Wk.	SUN R.&S. H. M.	MOON R.&S. H. M.	BOST. TIDE. H. M.	Day of Wk.	SUN R.&S. H. M.	MOON R.&S. H. M.	N. Y. TIDE. H. M.
1 FR.	74 54	9 19	0 37	17 4	58	9 15	9 44
2 SA.	77 1	10 10	1 18	26 57	10	10 6	10 24
3 S.	74 52	10 57	2 0	3 74	55	10 53	11
4 MO.	77 3	11 40	2 43	4 77	0	11 36	11 50
5 Tu.	74 49	MORN.	3 28	5 74	53	MORN.	0 13
6 WE.	77 5	0 18	4 15	6 77	2	0 15	1 2
7 TH.	74 47	0 53	5 6	7 74	51	0 50	1 52
8 FR.	77 8	1 26	5 59	8 77	4	1 24	2 45
9 SA.	74 44	1 57	6 56	9 74	48	1 56	3 41
10 S.	77 10	2 28	7 52	10 77	6	2 28	4 36
11 Mo.	74 42	3 1	8 45	11 74	46	3 2	5 30
12 Tu.	77 12	3 35	9 37	12 77	8	3 36	6 23
13 WE.	74 40	4 12	10 29	13 74	44	4 14	7 14
14 TH.	77 14	SETS.	11 18	14 77	10	SETS.	8 0
15 FR.	74 38	8 30	.....	15 74	42	8 26	8 51
16 SA.	77 16	9 33	0 32	16 77	11	9 29	9 44
17 S.	74 36	10 30	1 25	17 74	40	10 26	10 35
18 Mo.	77 18	11 20	2 18	18 77	13	11 17	11 28
19 Tu.	74 34	MORN.	3 12	19 74	39	MORN.	.....
20 WE.	77 20	0 3	4 8	20 77	15	0 0	0 55
21 TH.	74 32	0 41	5 7	21 74	37	0 39	1 54
22 FR.	77 22	1 16	6 8	22 77	17	1 15	2 54
23 SA.	74 31	1 49	7 8	23 74	36	1 49	3 53
24 S.	77 24	2 20	8 3	24 77	19	2 21	4 48
25 Mo.	74 29	2 51	8 56	25 74	34	2 53	5 42
26 Tu.	77 26	3 23	9 44	26 77	20	3 25	6 30
27 WE.	74 28	3 59	10 30	27 74	33	4 2	7 15
28 TH.	77 27	RISER.	11 13	28 77	22	RISER.	7 55
29 FR.	74 27	8 5	11 29	29 74	32	8 1	8 36
30 SA.	77 29	8 53	0 12	30 77	23	8 49	9 19
31 S.	74 26	9 38	0 53	31 74	31	9 34	10 0



MOON'S PHASES.	BOSTON.	NEW YORK.
LAST QUARTER...	5d. 7h. 21m. A.	5d. 7h. 9m. A.
NEW MOON	12d. 5h. 58m. A.	12d. 5h. 46m. A.
FIRST QUARTER...	19d. 9h. 4m. M.	19d. 8h. 52m. M.
FULL MOON	27d. 6h. 34m. M.	27d. 6h. 22m. M.

BOSTON & CHICAGO. N. YORK & PHILA.

Day of Wk.	SUN R.&S. H. M.	MOON R.&S. H. M.	Bost. Tide. H. M.	D. of M.	SUN R.&S. H. M.	MOON R.&S. H. M.	N. Y. Tide. H. M.
1 Mo.	74 25	10 18	1 35	1	74 30	10 14	10 38
2 Tu.	77 31	10 53	2 15	2	77 26	10 50	11 18
3 We.	74 24	11 26	2 57	3	74 30	11 24	.....
4 Th.	77 32	11 58	3 41	4	77 27	11 56	0 27
5 Fr.	74 24	MORN.	4 27	5	74 29	MORN.	1 14
6 Sa.	77 34	0 29	5 18	6	77 28	0 28	2 5
7 S.	74 23	1 0	6 13	7	74 29	1 0	2 58
8 Mo.	77 35	1 31	7 10	8	77 29	1 31	3 56
9 Tu.	74 23	2 5	8 10	9	74 28	2 7	4 54
10 We.	77 36	2 44	9 8	10	77 31	2 47	5 53
11 Th.	74 22	3 29	10 4	11	74 28	3 32	6 50
12 Fr.	77 37	SETS.	11 0	12	77 31	SETS.	7 43
13 Sa.	74 22	8 17	11 54	13	74 28	8 13	8 37
14 Su.	77 38	9 11	0 19	14	77 32	9 7	9 32
15 Mo.	74 22	10 0	1 12	15	74 28	9 57	10 23
16 Tu.	77 39	10 42	2 5	16	77 33	10 40	11 14
17 We.	74 22	11 19	2 56	17	74 28	11 18	.....
18 Th.	77 39	11 52	3 48	18	77 34	11 52	0 34
19 Fr.	74 23	MORN.	4 41	19	74 28	MORN.	1 28
20 Sa.	77 40	0 23	5 38	20	77 34	0 23	2 24
21 Su.	74 23	0 54	6 35	21	74 29	0 55	3 21
22 Mo.	77 40	1 26	7 31	22	77 34	1 28	4 16
23 Tu.	74 24	2 1	8 25	23	74 29	2 4	5 10
24 We.	77 40	2 38	9 15	24	77 35	2 41	6 1
25 Th.	74 24	3 18	10 3	25	74 30	3 22	6 49
26 Fr.	77 40	4 1	10 49	26	77 35	4 5	7 33
27 Sa.	74 25	RISES.	11 30	27	74 31	RISES.	8 12
28 Su.	77 40	8 18	.....	28	77 35	8 14	8 54
29 Mo.	74 26	8 55	0 29	29	74 32	8 52	9 35
30 Tu.	77 40	9 29	1 9	30	77 35	9 26	10 14
...



MOON'S PHASES.	BOSTON.	NEW YORK.
LAST QUARTER...	5d. 7h. 42m. M.	5d. 7h. 30m. M.
NEW MOON	12d. 6h. 32m. M.	12d. 6h. 20m. M.
FIRST QUARTER...	18d. 7h. 36m. A.	18d. 7h. 24m. A.
FULL MOON	26d. 9h. 39m. A.	26d. 9h. 27m. A.

BOSTON & CHICAGO. N. YORK & PHILA.

Day of Wk.	SUN R.&S. H. M.	MOON R.&S. H. M.	Bost. Tide. H. M.	D. of M.	SUN R.&S. H. M.	MOON R.&S. H. M.	N. Y. Tide. H. M.
1 We.	74 27	10 1	1 49	1	74 32	9 59	10 51
2 Th.	77 40	10 31	2 28	2	77 34	10 30	11 31
3 Fr.	74 28	11 1	3 9	3	74 33	11 1	.....
4 Sa.	77 39	11 32	3 52	4	77 34	11 33	0 39
5 S.	74 29	MORN.	4 41	5	74 35	MORN.	1 28
6 Mo.	77 39	0 4	5 35	6	77 33	0 5	2 22
7 Tu.	74 30	0 39	6 36	7	74 36	0 41	3 21
8 We.	77 38	1 19	7 39	8	77 33	1 22	4 24
9 Th.	74 32	2 5	8 44	9	74 38	2 9	5 29
10 Fr.	77 37	2 59	9 46	10	77 32	3 3	6 32
11 Sa.	74 33	4 2	10 46	11	74 39	4 6	7 30
12 S.	77 36	SETS.	11 40	12	77 31	SETS.	8 23
13 Mo.	74 35	8 35	0 5	13	74 40	8 32	9 18
14 Tu.	77 35	9 16	0 57	14	77 30	9 14	10 7
15 We.	74 37	9 52	1 46	15	74 42	9 51	10 53
16 Th.	77 34	10 25	2 35	16	77 29	10 25	11 42
17 Fr.	74 38	10 57	3 21	17	74 43	10 58	0 7
18 Sa.	77 32	11 30	4 10	18	77 28	11 32	0 57
19 Su.	74 40	MORN.	5 2	19	74 45	MORN.	1 49
20 Mo.	77 31	0 4	5 59	20	77 26	0 7	2 45
21 Tu.	74 42	0 40	6 56	21	74 47	0 43	3 41
22 We.	77 29	1 19	7 52	22	77 24	1 23	4 36
23 Th.	74 44	2 1	8 46	23	74 48	2 5	5 31
24 Fr.	77 27	2 46	9 36	24	77 23	2 50	6 22
25 Sa.	74 46	3 34	10 22	25	74 50	3 38	7 8
26 S.	77 25	4 27	11 5	26	77 21	4 31	7 48
27 Mo.	74 48	RISES.	11 44	27	74 52	RISES.	8 27
28 Tu.	77 23	8 5	0 3	28	77 19	8 3	9 9
29 We.	74 50	8 35	0 41	29	74 54	8 34	9 49
30 Th.	77 21	9 5	1 20	30	77 17	9 4	10 24
31 Fr.	74 52	9 35	1 59	31	74 56	9 35	11 1



MOON'S PHASES.	BOSTON.	NEW YORK.
LAST QUARTER...	3d. 5h. 12m. A.	3d. 5h. 0m. A.
NEW MOON	10d. 7h. 30m. M.	10d. 7h. 18m. M.
FIRST QUARTER...	17d. 9h. 31m. M.	17d. 8h. 51m. M.
FULL MOON	25d. 0h. 41m. A.	25d. 0h. 29m. A.

BOSTON & CHICAGO. N. YORK & PHILA.

DeM.	Day of Wk.	SUN R.&S. H. M.	MOON R.&S. H. M.	BOST. TIDE. H. M.	SUN R.&S. H. M.	MOON R.&S. H. M.	N. Y. TIDE. H. M.
1	SA.	7 53	10 6	2 39	1 54	57 10	7 11 44
2	S	7 18	10 30	3 22	2 7	14 10	41 0 7
3	MO.	7 4 55	11 16	4 10	3 7	59 11	19 0 57
4	TU.	7 15	11 58	5 6	4 7	12 MORN.	1 52
5	WE.	7 57	MORN.	6 8	5 5	1 0	1 2 54
6	TH.	7 13	0 47	7 17	6 7	9 0	51 4 2
7	FR.	7 59	1 43	8 26	7 5	2 1	47 5 11
8	SA.	7 10	2 46	9 31	8 7	7 2	50 6 17
9	S	7 1	3 55	10 31	9 5	4 3	59 7 16
10	MO.	7 7	SETS.	11 25	10 7	4	SETS. 8 7
11	TU.	7 5	7 46	....	11 5	6 7	45 8 57
12	WE.	7 4	8 22	0 36	12 7	1 8	22 9 45
13	TH.	7 5	8 56	1 23	13 5	8 8	57 10 29
14	FR.	7 2	9 30	2 8	14 6	59 9	11 13
15	SA.	7 10	4	2 53	15 5	10 6	....
16	S	7 59	10 39	3 38	16 6	56 10	42 0 24
17	MO.	7 10	11 17	4 28	17 5	12 11	21 1 15
18	TU.	7 56	11 58	5 23	18 6	53 MORN.	2 9
19	WE.	7 12	MORN.	6 20	19 5	14 0	2 3 6
20	TH.	7 53	0 42	7 18	20 6	50 0	46 4 3
21	FR.	7 14	1 30	8 14	21 6	16 1	34 4 58
22	SA.	7 50	2 21	9 6	22 6	47 2	25 5 51
23	S	7 16	3 15	9 53	23 6	38 1	18 6 39
24	MO.	7 46	4 11	10 37	24 6	44 4	14 7 22
25	TU.	7 18	RISES.	11 18	25 6	20 RISES.	8 0
26	WE.	7 43	7 9	11 56	26 6	41 7	8 8 40
27	TH.	7 50	7 39	0 14	27 6	27 7	39 9 20
28	FR.	7 40	8 10	0 52	28 6	38 8	11 9 58
29	SA.	7 22	8 43	1 32	29 6	52 8	45 10 36
30	S	7 37	9 18	2 14	30 6	35 9	21 11 17
31	MO.	7 24	9 57	2 58	31 6	26 10	0



MOON'S PHASES.	BOSTON.	NEW YORK.
LAST QUARTER...	2d. 0h. 31m. M.	2d. 0h. 19m. M.
NEW MOON	8d. 3h. 59m. A.	8d. 3h. 47m. A.
FIRST QUARTER...	16d. 1h. 31m. M.	16d. 1h. 19m. M.
FULL MOON	24d. 3h. 11m. M.	24d. 2h. 59m. M.

BOSTON & CHICAGO. N. YORK & PHILA.

DeM.	Day of Wk.	SUN R.&S. H. M.	MOON R.&S. H. M.	BOST. TIDE. H. M.	SUN R.&S. H. M.	MOON R.&S. H. M.	N. Y. TIDE. H. M.
1	TU.	7 5	10 42	3 48	1 5	27 10	46 0 34
2	WE.	7 6	11 34	4 45	2 6	30 11	38 1 31
3	TH.	7 5	27 MORN.	5 51	3 5	29 MORN.	2 37
4	FR.	7 28	0 32	7 2	4 6	26 0	36 3 47
5	SA.	7 30	1 36	8 12	5 5	31 1	40 4 57
6	S	7 24	2 45	9 17	6 6	23 2	48 6 3
7	MO.	7 32	3 56	10 14	7 5	33 3	58 7 0
8	TU.	7 21	SETS.	11 5	8 6	20	SETS. 7 48
9	WE.	7 34	6 51	11 50	9 5	35 6	51 8 34
10	TH.	7 56	7 25	0 12	10 6	16 7	26 9 20
11	FR.	7 36	7 59	0 56	11 5	37 8	1 10 3
12	SA.	7 14	8 35	1 39	12 6	13 8	38 10 44
13	S	7 38	9 13	2 23	13 6	39 9	16 11 28
14	MO.	7 11	9 54	3 7	14 6	30 9	58
15	TU.	7 40	10 37	3 55	15 5	41 10	41 0 42
16	WE.	7 11	24 4	4 47	16 6	7 11	28 1 34
17	TH.	7 42	MORN.	5 43	17 5	43 MORN.	2 29
18	FR.	7 6	3 0	14 6	18 6	3 0	18 3 25
19	SA.	7 44	1 7	7 37	19 5	45 1	11 4 22
20	S	7 6	0 2	8 30	20 6	0 2	5 5 15
21	MO.	7 47	2 59	9 19	21 5	47 3	1 6 5
22	TU.	7 56	3 58	10 4	22 5	56 4	0 6 50
23	WE.	7 49	4 58	10 48	23 5	49 4	59 7 32
24	TH.	7 53	RISES.	11 27	24 5	53 RISES.	8 9
25	FR.	7 51	6 44	....	25 5	51 6	45 8 52
26	SA.	7 49	7 18	0 26	26 5	50 7	20 9 34
27	S	7 53	7 57	1 9	27 5	53 8	0 10 16
28	MO.	7 46	8 41	1 54	28 5	46 8	45 10 59
29	TU.	7 55	9 30	2 41	29 5	55 9	34 11 51
30	WE.	7 43	10 25	3 33	30 5	43 10	29 0 19



MOON'S PHASES.	BOSTON.	NEW YORK.
NEW MOON	6d. 8h. 32m. M.	6d. 8h. 20m. M.
FIRST QUARTER...	14d. 1h. 38m. A.	14d. 1h. 26m. A.
FULL MOON	21d. 4h. 14m. A.	21d. 4h. 2m. A.
LAST QUARTER.	28d. 7h. 38m. M.	28d. 7h. 26m. M.

BOSTON & CHICAGO.	N. YORK & PHILA.
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D. of M.	Day of Wk.	SUN R. & S. H. M.	MOON R. & S. H. M.	BOST. TIDE. H. M.	D. of M.	SUN R. & S. H. M.	MOON R. & S. H. M.	N. Y. TIDE. H. M.
1	TU.	7 10	1 53	7 7	1 7 5	1 53	3 53	
2	WE.	7 11	2 57	8 5	2 7 4	3 53	4 50	
3	TH.	7 12	4 0	8 58	3 7 7	3 58	5 43	
4	FR.	7 13	5 1	9 47	4 7 4	4 58	6 34	
5	SA.	7 14	6 1	10 35	5 7 9	5 57	7 19	
6	S	7 15	SETS.	11 19	6 7 4	6 53	SETS.	8 1
7	MO.	7 16	5 48	11 59	7 7 11	5 52	8 43	
8	TU.	7 17	6 38	0 20	8 7 4	6 42	9 28	
9	WE.	7 18	7 31	1 2	9 7 13	7 35	10 7	
10	TH.	7 19	8 26	1 42	10 7 4	8 29	10 47	
11	FR.	7 20	9 21	2 25	11 7 15	9 24	11 28	
12	SA.	7 21	10 18	3 5	12 7 4	10 20	.....
13	S	7 22	11 16	3 48	13 7 16	11 17	0 34	
14	MO.	7 23	MORN.	4 34	14 7 4	12 1	1 21	
15	TU.	7 24	0 16	5 24	15 7 18	0 16	2 10	
16	WE.	7 25	1 16	6 18	16 7 4	1 15	3 4	
17	TH.	7 26	2 18	7 14	17 7 19	2 16	3 59	
18	FR.	7 27	3 24	8 13	18 7 4	3 22	4 57	
19	SA.	7 28	4 31	9 10	19 7 20	4 28	5 55	
20	S	7 29	5 39	10 6	20 7 4	5 35	6 52	
21	MO.	7 30	RISES.	11 2	21 7 21	RISES.	7 45	
22	TU.	7 31	5 54	11 55	22 7 4	5 58	8 39	
23	WE.	7 32	7 3	0 21	23 7 22	7 7	9 34	
24	TH.	7 33	8 14	1 13	24 7 4	8 17	10 24	
25	FR.	7 34	9 26	2 5	25 7 23	9 28	11 13	
26	SA.	7 35	10 36	2 56	26 7 4	10 37	.....
27	S	7 36	11 44	3 48	27 7 23	11 44	0 34	
28	MO.	7 37	MORN.	4 41	28 7 4	12 1	1 28	
29	TU.	7 38	0 49	5 39	29 7 24	0 48	2 25	
30	WE.	7 39	1 53	6 37	30 7 4	1 51	3 23	
31	TH.	7 40	2 55	7 34	31 7 24	2 52	4 19	

Ther. THURSDAY, JAN. 1, 1885 Wea.

Ther. FRIDAY 2 Wea.

Ther. SATURDAY 3 Wea.

Ther.

SUNDAY, JAN. 4, 1885

Wea.

Ther.

WEDNESDAY, JAN. 7, 1885

Wea.

Ther.

MONDAY 5

Wea.

Ther.

THURSDAY 8

Wea.

Ther.

TUESDAY 6

Wea.

Ther.

FRIDAY 9

Wea.

Ther.

SATURDAY, JAN. 10, 1885

Wea.

Ther.

TUESDAY, JAN. 13, 1885

Wea.

Ther.

SUNDAY 11

Wea.

Ther.

WEDNESDAY 14

Wea.

Ther.

MONDAY 12

Wea.

Ther.

THURSDAY 15

Wea.

Ther.

FRIDAY, JAN. 16, 1885

Wea.

Ther.

MONDAY, JAN. 19, 1885

Wea.

Ther.

SATURDAY 17

Wea.

Ther.

TUESDAY 20

Wea.

Ther.

SUNDAY 18

Wea.

Ther.

WEDNESDAY 21

Wea.

Ther. THURSDAY, JAN. 22, 1885 Wea.

Ther. SUNDAY, JAN. 25, 1885 Wea.

Ther. FRIDAY 23 Wea.

Ther. MONDAY 26 Wea.

Ther. SATURDAY 24 Wea.

Ther. TUESDAY 27 Wea.

Ther. WEDNESDAY, JAN. 28, 1885 Wea.

Ther. SATURDAY, JAN. 31, 1885 Wea.

Ther. THURSDAY 29 Wea.

Ther. SUNDAY, FEB. 1 Wea.

Ther. FRIDAY 30 Wea.

Ther. MONDAY 2 Wea.

Ther.

TUESDAY, FEB. 3, 1885

Wea.

Ther.

FRIDAY, FEB. 6, 1885

Wea.

Ther.

WEDNESDAY 4

Wea.

Ther.

SATURDAY 7

Wea.

Ther.

THURSDAY 5

Wea.

Ther.

SUNDAY 8

Wea.

Ther.

MONDAY, FEB. 9, 1885

Wea.

Ther.

THURSDAY, FEB. 12, 1885

Wea.

Ther.

TUESDAY 10

Wea.

Ther.

FRIDAY 13

Wea.

Ther.

WEDNESDAY 11

Wea.

Ther.

SATURDAY 14

Wea.

Ther.

SUNDAY, FEB. 15, 1885

Wea.

Ther.

WEDNESDAY, FEB. 18, 1885

Wea.

Ther.

MONDAY 16

Wea.

C. G. P. & J. A. W. went to
Burlington to get outfit of
clothing etc.

Ther.

THURSDAY 19

Wea.

Ther.

TUESDAY 17

Wea.

Ther.

FRIDAY 20

Wea.

Ther.

SATURDAY, FEB. 21, 1885

Wea.

Ther.

TUESDAY, FEB. 24, 1885

Wea.

Ther.

SUNDAY 22

Wea.

Ther.

WEDNESDAY 25

Wea.

Left home with Rev. H. Wilson as assistant for a botanical journey in Mexico. The snow too fast deep, and weather like the devil of winter. Travelled via St. Albans and Montreal.

Ther.

MONDAY 23

Wea.

Ther.

THURSDAY 26

Wea.

Morning found us on the north shore of L. Ontario. A thaw had occurred since the last snowfall, settling the snow to our feet in depth at most; in many places the ground was bare. Our train lost time during the day and the following night while crossing Michigan.

Ther.

FRIDAY, FEB. 27, 1885

Wea.

arrived in Chicago about 11 A.M., had no time to wait for trunk to be transferred from C. & G. S. depot to C. R. & L. depot, but got check changed. Reached Quincy by nightfall and crossed Missouri by night on the H. & St. J. R.R.

Ther.

SATURDAY 28

Wea.

Spent the day in Kansas City waiting for trunk to overtake us, and buying some articles to complete outfit. By 8:30 P.M. got both trunks rechecked.

Ther.

SUNDAY, MAR. 1

Wea.

Left Kansas City; over eastern Kansas the snow partially covered the ground; reached Newton about dark.

Ther.

MONDAY, MAR. 2, 1885

Wea.

By daylight passed from near La Junta, Colorado to ~~San Antonio~~ Las Vegas, New Mexico. On the plains slight traces of recent snow, vegetation apparently not in the least begun. The mountains about Trinidad whitened with snow and the more distant ranges of the Spanish Peaks, etc., glistening white.

Ther.

TUESDAY 3

Wea.

Soon after daylight we reached Sacano in the Valley of the Rio Grande. Was surprised to see nothing green except a few clumps of grass in pools of water. Went southward on desert; plants were starting; north of Rio can see some yellow flowers, and in the valley of the Rio Grande, as we moved back, trees were coming into bloom.

Ther.

WEDNESDAY 4

Wea.

Spent the day in El Paso; visited Ft. Bliss to arrange with the Q. M. about shipments to Washington; called at the Mexican Consulate and and at both custom houses. Some earliest flowers were opening, weather like that of May at home. Streets of El Paso dusty.

Ther.

THURSDAY, MAR. 5, 1885

Wea.

Arrived in Chihuahua about 7 A.M. weather warm, bright, and dry. A few plants sufficiently advanced to be gathered; - *Astragalus triflorus*, etc. Spent much time looking for a room. Took a bath in the river.

Ther.

FRIDAY 6

Wea.

Hired a room in a new adobe house near the railroad about a mile from the city and moved thither a part of our baggage; in the evening made the acquaintance of a bookseller (Eng.) and an Austrian merchant from whom I learned of the possibility of travelling over a wide district in the mountains.

Ther.

SATURDAY 7

Wea.

We walked out to the mill of the Santa Isabel Silver Mining Co., to visit Edward Wilkinson, a naturalist who collects in various branches of natural history. He gave me much advice and information.

Ther.

SUNDAY, MAR. 8, 1885

Wea.

Kept my room until the middle of the afternoon; then improved an opportunity to witness a bull fight.

Ther.

MONDAY 9

Wea.

Made the acquaintance of Mr. Sutton of the Congregationalist mission in this city. He called with me on Ex. Gov. Gordon Terrazas and the latter took me twice to see the acting governor, but each time we failed to find him in his office.

Ther.

TUESDAY 10

Wea.

At 10 A.M. by appointment went again with Gov. Terrazas to see the governor, Genl. Huerta, and only found him in when calling again in the afternoon. He received me with kind cordiality and promised to have ready for me the following afternoon the letter to officials desired by me.

Ther. WEDNESDAY, MAR. 11, 1885 Wea.

Received from Gov. Gueto a circular letter to the heads of the cantons of the State of Chihuahua directing them to allow me to travel the State at will and to give me advice and assistance as needed.

In the evening took train for El Paso.

Ther. THURSDAY 12 Wea.

Found in the P.O. at El Paso my tripod left behind at El Paso. This time saw J. B. Robinson, Esq., Genl. Manager of the Mex. Central, who gave me a letter to all his employees ordering them to check free all my baggage and show favors needed.

Ther. FRIDAY 13 Wea.

Reached Chihuahua again in the morning with two boxes of bot. paper, which were seized by the Custom-house officials, but released by the Administrator upon my explanation. On my way up from El Paso met Mr. Robinson, Geologist of the Mex. Cent.

Ther. SATURDAY, MAR. 14, 1885 Wea.

We took train for the South, hoping to find vegetation sufficiently advanced about Zacatecas to begin work there effectually.

Ther. SUNDAY 15 Wea.

Reached Zacatecas at 9.30 A.M. and I was disappointed not to find mountains reaching high about the city (long rocky knobs of a high tableland,) and nearly all the vegetation of the region dormant. So we went right on to Aguas Calientes 70 miles south, lower and warmer. There again disappointed; even less vegetation than at Z.

Ther. MONDAY 16 Wea.

During the forenoon spent at Aguas Calientes we distributed ourselves and collected *Ruellia*¹⁸² *verticillata*, *W.*, and a composite. *Semiothisa*¹⁹⁵, etc. Then in the afternoon returned to Zacatecas. Seeing some plants in flower on the hills beside the railroad and above the town of Guadalupe near Z, we decided to stop over for a day.

Ther. MONDAY, MAR. 23, 1885 Wea.

Spent the day in Bachimba Cañon, where we collected *Arisaema*²⁶³ *insigne*, *May napp.* *Enothera tetragyna*, *Cob.* 161, *Lippia lycioides*, *Buddleia*, *Scorodivoides*, etc. There were *Brickellia*, *Artemisia*, *Asclepias nummularia*, *Yucca californica*, *Red Chelidonium*, *Linchium*, and *Ch. fragi*, reminding of Arizona. We went to the Cañon 40 miles south by Railroad train in the morning, and returned in the evening.

Ther. TUESDAY 24 Wea.

Trying to dry plants, we were much hindered by morning clouds and afterwards by high winds.

Ther. WEDNESDAY 25 Wea.

After changing dryers, we went up the river west of the City as far as the head of the aqueduct. On the river cliffs of that region collected *Myrsine*⁴⁸ *garcia*, *Emb.* and *Berberis trifoliolata*, *Moricand* in flower.²⁶¹
167 *Phacelia infundibuliformis*, *Forr.*
67 *Euphorbia strabans*, *Benth.*
4 *Sactylhymenium Fripplii*, *Carlot.*

Ther. THURSDAY, MAR. 26, 1885 Wea.

Dried plants and collected in the plains near by *Furcraea parviflora*²⁶⁴. Tried in vain to get permission from Mr. John Robinson, Sup^t of the Santa Eulalia S. M. Co., for Mr. Edward Wetkinson to botanize a day with us in the region of his mines.

Ther. FRIDAY 27 Wea.

We went out by first train on the narrow-gauge railroad to Santa Eulalia Cañon, and in that rich limestone region spent a busy day collecting. Returning in the evening, Mr. Chas. S. Robinson proposed that we spend a Sunday when there would be room for us about the mines near the summit.

Ther. SATURDAY 28 Wea.

Chelidonium benecope de Lion.
See the forenoon dried plants and in the afternoon procured a letter from Mr. C. S. R. to the foreman of the mines and went up thither.

265 *Streptanthus carinatus*, *Wright.*
264 *Craton fruticosus*, *Forr.*

Ther. SUNDAY, MAR. 29, 1885 Wea.

Botanised about the mine and down through the Cañon to the base house where we spent the night. Collected *Garrya*³ *linkii* ^{min.} *Don?* *Clavicus undulata*, var. *fruticosa*, *Cyperus* *brigit* (in flower) and many other species in small numbers. 204 *Hymenatherum pentachiatum*, DC.

Ther. MONDAY 30 Wea.

Collected in the foothills within a mile of the base house. *Chetopappa*^{2, 50} *modesta*, *Castilleja integrifolia*, *Veronica* sp. *Buddleia marubiaefolia*, etc., and towards night returned to our room.

Also (*Antiphytum heliotropioides*). *Krynitzkia heliotropioides*, Gray, 168.

Ther. TUESDAY 31 Wea.

Spent the day about house drying plants, and cleaning specimens of *Salpiglossis* *lipidophylla*, and *S. Douglasii*, *Baklanov* which I put into a pot of water to resurrect.

In the afternoon had a return of the malarial fever contracted last fall in Arizona.

Ther. WEDNESDAY, APRIL 1, 1885 Wea.

On the plains near the City collected *Astropala* *Humboldtii*, Gray, the Lolo (Crazy) head of the Mexican rancheros, and dried this and the *Salpiglossis*.

Ther. THURSDAY 2 Wea.

In Bachimba Cañon a second time collected *Salvia* *rubescens*, *Namada* *undulatum*, HBK., *Apocynum* *stephensii*, *Holms*, *Gray*, *Holms* ^{no. 1.} *Texana*, *Penstemon* *pusillus*, Gray, 179.

257 *Argemone mexicana*, L.

My fever yields to a course of quinine.

Ther. FRIDAY 3 Wea.

Drying plants.

Ther. SATURDAY, APRIL 4, 1885 Wea.

On the ledges north-east
of our house collected
Mammillaria dasyacantha, Engelm.
and *Echinocactus puncinatus*,
Wright, Engelm. and in the valley
below *Astragalus Nuttallianus*,
No. 276.
1, *Irolina texana*, Watson. fl.

Ther. SUNDAY 5 Wea.

Had some plants to dry.
With Misses C. S. Robinson
and Edward Wilkinson
called on Dr. Don Francisco
Venega to talk with him about
a trip through the Sierra Madre.

Ther. MONDAY 6 Wea.

76 *Echinocactus puncinatus*, Wright, Engelm.
We spent the day with Mr.
Edward Wilkinson among
the Santa Catalina Mts., and ex-
plored the fearful cañon next
north of the one containing
the mines. Found three *Flourensia*
cuspidata, Don. *Lonicera albiflora*, T.
250 *Mammillaria* sp. *Scutellaria*
sumneri, Rth. *Ceanothus Grisei*, Gray.

Ther. TUESDAY, APRIL 7, 1885 Wea.

Having spent the night in the base
house, early we returned to the
cañon for a full supply of *Melica*
laxiflora, Cav.⁴³⁰, etc.; then, after
collecting *Acacia*¹⁷³ *Americana*, Schott,
in flower, we returned to Chihuahua
- here about noon, and devoted
the rest of the day to drying
plants.

Ther. WEDNESDAY 8 Wea.

On the hills and plains south
east of town we collected *Cereus*
dasyacanthus, Engelm. and *Homotropa*
rubra,²⁷⁴ Cov., and then about
dark took the north bound
train.

#275 *Polimnitha incana*, Gray.

Ther. THURSDAY 9 Wea.

Leaving the train at daybreak
at Samalayuca, a water station
30 miles south of Paso del Norte,
we spent the day gathering
plants among the sand hills
about three miles south of the
station; viz., *Risicentella wislizeni*, Rott.
Phacelia integrifolia, Torr., 177
262 *Asymmetrium*
Thurberii, Gray *Cereus polycanthus*, Engelm.
#

Ther.

FRIDAY, APRIL 10, 1885

Wea.

Returned home in the morning, and spent the day drying plants.

Ther.

SATURDAY 11

Wea.

Explored the second canon to the north of that containing the mines in the Santa Elena Mts., where we gathered chiefly *Asclepias costata*, Gray. 133

On the hills with not collected
Actinella ³ *scaposa*, Nutt., and ^{var. linearis, Nutt.}
Euphorbia hirtula, Engelm. 269
 205 *Chaptalia modesta*, Gray
 269 *Euphorbia hirtella*, Engelm.

Ther.

SUNDAY 12

Wea.

at home drying plants. A thunder-storm in the evening.

258 *Hamillaria strabiliformis*, Sotter

Ther.

MONDAY, APRIL 13, 1885

Wea.

On the foothills of the Santa Elena Mts., we found the rain had beautifully revived ferns and Selaginellas. So we finished collecting a large lot of *Ocidea*, this ⁴⁴⁹ *Leucopoda*, Luss., and *Pellaea pulchella*, ⁴⁴⁹ *He*, and gathered a full complement of *Asclepias* ^{Watson} *fryi*. In the afternoon I was again attacked by fever, and had a weary time getting home.

Ther.

TUESDAY 14

Wea.

drying plants, taking medicine, and going into the city for mail, and food.

Ther.

WEDNESDAY 15

Wea.

In *Bachimba* Canon again, but we had collected little beside *Vitis Arizonica*, Engelm. and *Euphorbia* ¹³¹ *linata*, Watson n. sp., when I was prostrated for the afternoon by a fearful fever (pulsations 105 per minute). Managed to walk two miles back to the station, George anxious and attention.

Ther. THURSDAY, APRIL 16, 1885 Wea.

Drying plants and continuing
another course of priming -
toward evening on the
northeastern hills collect-
ed *Verbena canescens*, HBK.

270

Ther. FRIDAY 17 Wea.

Made our third trip to Ba-
chimba Cañon, leaving the
train at its upper end. Collected
Cupressus chrysostylus Rob. n. sp.
flowers of *Yucca rupicola*, var. *repida*, Engelm.
and of *Cereus* (N. 3.) *ambicautus*, Engelm.
Pentstemon purpureus, Gray. 179

Ther. SATURDAY 18 Wea.

After drying plants most of
the day we went down to the
Silver mill, and Mr. Wilkinson
took us to ravine where we
coll. *Phacelia integrifolia*, Torr.
179.

Ther. SUNDAY, APRIL 19, 1885 Wea.

Spent the day in the room.

Ther. MONDAY 20 Wea.

In the cañon of the Santa Ru-
lalia Mts. next north of
the grand cañon collected
Liriodendron rupicola, Engelm. 132
Scutellaria dummondii, Bth., and
Phacelia chrysota, var. *dissecta*, Gray.
and on the foothills *Chrysactinia*
Mexicana, Gray, etc.

Ther. TUESDAY 21 Wea.

Against wind and cloud
trying to dry plants. Towards
night collected on the banks
of the Sacramento River
Vitis Arizonica, Engelm. in flower.
186.

Ther. WEDNESDAY, APRIL 22, 1885 Wea.

We went down to the Silver
Mill in the morning, and
gathered *Adiantum argenteum*⁸⁰
Returned and dried plants
for a while; then in the after-
noon with Mr. Wilkinson
interviewed Sr. San Francisco
Vinegar, whom I found wishing to
sell me rather than hire him
the mules necessary for a trip to
Ketipilas.

Ther. THURSDAY 23 Wea.

We visited the Santa Sabalia
Mts. once more to get a good
supply of a fern found as we
were leaving two days before
*Polypodium Pringlei*⁴⁴ *Samuelsonii*¹⁰

Its habitat is the steep
banks of the first ravine
north of the base here, which
are composed of soft crumbling
lime rock - *Chalky stuff*.

Ther. FRIDAY 24 Wea.

I went alone up the river
beyond the city; on the mesa
collected a Composite *Brickellia*
spinalosa Gray. * on the first
hill *Mimulus*²⁸ *prolifera* Watson n. sp.
and *Crotona Mexicana*⁹ Gray
and on the rocky mesa beyond the
falls flowers of *Echinocactus*

169 *Eriogonum cuneatum* Torr.

Ther. SATURDAY, APRIL 25, 1885 Wea.

Spent the day drying plants
and getting ready for a trip
on the railroad.

Just as we have already 75-
specimens for sets.

* 142 *Randia Pringlei*, Gray²¹
42 *varilla mexicana*, Gray.

Ther. SUNDAY 26 Wea.

Rode on the railroad 328
miles southward to Jimuleo,
a new railroad station, the south
end of the second division from
Passo del Norte, where we found
Mr. Robinson, the geologist who
introduced us to Mr. Davis, the
division Supt. in whose office we
were permitted to spend our bed.

Ther. MONDAY 27 Wea.

In the ¹⁶⁰ *Hieracium* ¹¹⁴ *Elaeagnus* ¹¹⁴ *Watsonii*
In the early morning walked four
miles westward across the valley and
mesa to a great canon in the mount-
ains, where we found a rich variety
of plants. *Gymnosoma*¹⁴⁵ *thymifolia*²¹,
*Desmodium*¹⁴¹ *laxa* Watson n. sp. *Jatropha*⁵³ *sp.*
ulata Müll., *Banksia* *inflata* Watson n. sp.
Colubrina *Texensis*, Gray. 144
Echinocactus *Pringlei* Rosin⁵⁴
Mandarin *recusata*, L. 219

Ther. TUESDAY, APRIL 28, 1885 Wea.

Returned again to the field of the preceding day and collected *Parosphyllum separatum* Gray, *Brickellia glutinosa* Pringle, sp. *Hectia Texensis*, Watson, and a white flowered plant, *Machaonia Pringlei*, Gray n. sp. and *Acacia Blandieri*, Benth 145-

500 specimens taken in these two days:

Ther. WEDNESDAY 29 Wea.

after riding all night reached Aichmahua at 7 a.m. a smart shower had fallen the evening before, and the sun was obscured during most of the day, so as to make slow work drying our plants.

Ther. THURSDAY 30 Wea.

A bright, warm day during which we accomplished the drying of our Jimenez plants. Towards evening I went down to the Silver Mill and gathered fruit of *Phacelia integrifolia* Torr. 177.

Ther. FRIDAY, MAY 1, 1885 Wea.

Another visit to Santos Indalzin Mts. Coll. *Cavalia sinuata* Raf., fruit of *Cotoneaster denticulata*, HBK. specimen of *Echinocactus wats.* 51, *Euphorbia polycarpa*, Bth., var. *vestita* *Salvia lycioides*, Gray n. sp. 2 specimens.

In the Silver mill one of the Am. workmen was shot through the carelessness of a Mexican.

233 *Polygala Watsoni*, Chodat n. sp.

Ther. SATURDAY 2 Wea.

Dried plants and gathered about home *Opuntia filipendula*, Engelm and an *Argemone* with small white flowers, a *Stemopetalum*, Rose 43

A thunderstorm came out of the west in the evening.

Ther. SUNDAY 3 Wea.

At home.

In the evening took train for El Paso.

* 77 *Abronia turbinata*, Lam.
78 ——— *Cycloptera* *grac*

Ther. MONDAY, MAY 4, 1885 Wea.

From El Paso we recrossed
the river late in the morning
and passed up the south
bank to a point above Ft.
Bliss. On the plains a little
back from the river collected
Piddellia *taptina*, Nutt., on the
crink of the tablelands *Echinocactus*
and, on the sand bluff opposite Ft.
Bliss, *Astragalus* ²⁰¹ *amphioxys*, Gray.

Ther. TUESDAY 5 Wea.

In the morning from our hotel in El Paso we set out to find on the low lands below Pasodel Norte Bartlettia collected some where in this vicinity by Thurber, Wright and G. P. Vasey. We vainly searched for it over miles of the tilled lands, and through pleasant orchards and vineyards, at last on the low and arid sandy slopes, on the lower coll. two species of *Abornia*. About noon a flour sifter man there and I drove myself back to El Paso for an afternoon of collecting and passed the

Ther. WEDNESDAY 6 Wea.

My 47th birthday.

By train we reached our room at Chihuahua ^{Station} in the morning. My fever did not prevent my going into town to call at the bank, bakery, etc., as was necessary nor my working over my plants, but I was heavily oppressed by it and barely able to do so - Continued my usual course of fumigation -

Ther. THURSDAY, MAY 7, 1885 Wea.

A terribly sick day for me;
I could keep up but little,
finally with vomiting and
purging the fever began to leave
me -

after attending to the drying of the plants George went down to the Silver Mill toward evening, and Mr. Sutton and Mr. Wilkinson called on me -

Ther.	FRIDAY 8	Wea
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Not quite steady in my walking, nor strong enough to climb hills without panting, but did a good days work. We went up the river west of the city and on the hills about the head of the aquarium coll. *Quercus undulata* x *binicola* Molina ¹⁸⁹⁴
microcarpa Wats. *Astragalus Pinskyi* Watson ¹⁸⁹⁹

Ther. SATURDAY 9 Wea. h. 70

Glad to devote much of the day to rest and sleep.

Ther. SUNDAY, MAY 10, 1885 Wea.

In the afternoon went out on the Cusi road some two miles from town and collected *Aphyllon Ludovicianum*, Gray.

(-) *Mamillaria gummifera*, Engelm.

The forenoon had been given to writing letters and sleeping - Not feeling well -

Thunderstorms in the evening -

Ther. MONDAY 11 Wea.

In the morning we took train for Jimuleo.

Ther. WEDNESDAY, MAY 13, 1885 Wea.

We visited Jimuleo spring four miles distant and there collected *Setaria glauca*, var. # and *Paspalum* ³⁷⁴ *Hallii* var. ^{var. 501} *placidum*, on our way back in the hills we got *Amaranthus falcatus*, Engelm. ¹²³ *Synedra chrysanthemoides*, Lag. ¹³¹ *Chaptalia imbricaria*, Streptobotrys, Scribn. & Merrill

Ther. THURSDAY 14 Wea.

Explored the cañon east of Jimuleo station. Collected *Acaia crassifolia*, Gray. 49 in flower and fruit, fruit of *acacia* ¹⁶³ *anisophylla*, Watson n. sp. and a shrubby *Stillingia*, *S. bicarpularis*, Watson n. sp. 128

937 *Lavina repanda*, Lag.

Ther. TUESDAY 12 Wea.

9 *Erca sativa* Lam. 249.

At Jimuleo Mr. Eckhart, Acting Div. Supt., provided us with a six-car in which to live and work over our plants. Half sick with diarrhea, but I gathered *Solanum triquetrum* Cav., *Buddleia scordirioides*, HBK. and a composite, *Helianthus laciniatus*, Gray. 129. 47

Ther. FRIDAY 15 Wea.

In the irrigated valley close by Jimuleo station collected *Heliotropium Greggii* Gray. 82 and two species of *Euphorbia*. *E. slickoviana*, Engelm., & *E. anisophylla*, Pers. 81. ¹²⁵ *Pectis Kingii* Small n. sp. 247 *Eupatorium Greggii*, Gray

Ther. SATURDAY, MAY 16, 1885 Wea.

We walked northward along the railroad in the forenoon and gathered ²⁴⁹ *Gilia rigida* Bth. and *Cassipouia assilifolia*, Walt. n. sp. a shrub attaining six feet in height, also *Nicotiana glauca* Graham. In the evening I got a *Erigeron* *Thelypodium* ¹⁹⁴ *undulatum*, Walt., and *Bidens pilosa*, L. 193 a little south of the station.

Ther. SUNDAY 17 Wea.

Went up to the great cañon in the southwestern mountains and collected in fruit *Acacia* ^{in flower} *Acacia constricta*, Bth., and *Afara asperifolia*, Jacquin flower. In the evening I gathered near the station *Helenium microcephalum*, and *Fraxinea tenuifolia*, Bth.

Ther. & chance MONDAY 18 to father Wea.

156 *Euphorbia antisyphilitica* Rucc. Took train early in the morning for Chihuahua (the vegetation on the mountains about Jimulco being now mostly dried up.) We had not gone 15 miles, when our engine run over an ox, and was thrown from the track, the tender and coaches keeping the track. (Nobody hurt.)

Ther. TUESDAY, MAY 19, 1885 Wea.

at home working over Jimulco collection of plants. Wind from the west high. Great far less than at Jimulco.

Ther. WEDNESDAY 20 Wea.

visited the Santa Eulalia Mts. and collected *Metastelma barbigerrum*, ^{Schultz} *Schoenocaulon* ^{on} *drummondii*, ⁴⁰ *Berberis trifoliolata*, ^{Mexican} in fruit, etc.

Ther. THURSDAY 21 Wea.

drying plants at home - 139 *Eysenhardtia spinosa* Engelm. (W. B. & Gray's interest.) A low bush resisting frost. 145 *Cassia Wislizeni*, Gray. Sh.

Ther.

FRIDAY, MAY 22, 1885

Wea.

Made a trip to Bachimba
Canyon and filled two large
packs with plants - Finding
specimens of *Nolina texana*, but
a species of *Acanthaceae* *Caloph-*
nis discolor, *Physalis hirsutifolia*,
Gray, *Zinnia arborescens*, Gray,
Salvia leucostachya, Gray, 64
Abutilon malacum, 164, Watson n. sp.

273 *Eupatorium solidagineum*, Gray

Ther.

SATURDAY 23

Wea.

Such plants and collect-
ed on Chihuahua Mt.

Croton gnarolens, Torr. 140

102 *Stevia salicifolia*, Coss.,
var. *nana*, Gray (last Gray)

Ther.

SUNDAY 24

Wea.

at home -

115 *Euphorbia Brasilensis*, Lam.

Ther.

MONDAY, MAY 25, 1885

Wea.

#37 *Euphorbia maculata*, Torr.

Collected in Bachimba Canyon
having the train at the water-tank
and taking it for home at 6 P.M.
when it slowed to cross the bridge
which is building - Spent most of
the time about the springs, where we
got two species of *Euphorbia*, *E. freslii*,
Gray, + *E. lineata*, Watson n. sp. 187

On the hills coll. *Perymenium pube-*
Rob. + Greenman and *Hoffmannia multi-*
puberula, Watson n. sp. 188

TUESDAY 26

Wea.

a day spent about home -

Ther.

WEDNESDAY 27

Wea.

visited the Santa Catalina
Mts. and coll. infl. *Agave* 187
heteracantha, Zucc., leaves of
Agave wislizeni, Engelm. and
Dasylicium wheeleri, Watson
also *Vauquelinia corymbosa*,
Coss. 5-

Ther. THURSDAY, MAY 28, 1885 Wea.

In the afternoon went
up into the river cañon
west of the city and on
its ledge collected *Calliandra*⁴⁴
niophylla, Bth., *Lycurus*⁴² *phoides*,
A. B. K. and *Muehlenbergia*
calamagrostides, Kth. 428

Ther. FRIDAY 29 Wea.

I went out to the Santa Eula-
lia Mts. and about the foothills
collected *Pereskia*¹ *nana*, Gray,
Houstonia polytrichoides, Gray n. sp.
flowers (♀) & *Saxifraga* *whitii*,
Watson, 149 etc.

Ther. SATURDAY 30 Wea.

We went up into the river
cañon and got *Pereskia*¹³⁰
brightii Gray and *Sesuvium* (?)
dissidua, Watson n. sp. 8

Ther. SUNDAY, MAY 31, 1885 Wea.

Happily at home; for I had
a terrible day with my
fever. As soon as possible,
after being attacked I
cleansed my stomach by
thorough vomiting, then
took quinine.

Ther. MONDAY, JUNE 1 Wea.

Though I was weak from
the previous day's sickness, we
~~went~~ made a good day's work
collecting about the cañon of
the river west of the city.
Tanacetum *cubense*, L., 66
Melampodium longicorne, Gray, 7,
and *Aristolochia* 9
brevis, besides miscellaneous sp.

Ther. TUESDAY 2 Wea.

I botanized along the north
bank of the river (Rio
Nombu de Dios) and on its
gravel bars got *Gnaphalium*
Springii, H. & Arn., on edge of
the mesa near the river a species
of *Acauthus*, *Carlwrightii*
pubens, Gray, 65, and in the cult.
field *Psoralea pentaphylla*, L. 17.

Ther. WEDNESDAY, JUNE 3, 1885 Wea.

Followed up the north valley still further. On the bordering hills I collected *Cassia Lindhimeriana*, Schulz⁴⁶ and in the grassy borders of irrigating ditches a composite, *Palactis brevifololata*, Schult. Bip. 14

Ther. THURSDAY 4 Wea.

We went out to the Santa Eulalia Mts. and collected *Hemizonia*⁵⁷ *fasciculata*, Gray, and on the summits a strange *Sphedra*, *E. aspera*, Engelm. 38.

Vegetation on the Mts. fast drying up.

Ther. FRIDAY 5 Wea.

Could not go out collecting today because I had to go in town to get money from the bank and do other errands.

Ther. SATURDAY, JUNE 6, 1885 Wea.

Collected in the north cañon of the Santa Eulalia Mts., and got *Vincetoxicum Mexicanum*, Watson, and fruit of *Acacia Boemmeriana*, Schulz⁴⁷, and *Malvodia*⁴⁸ *speciosa*, etc.

Ther. SUNDAY 7 Wea.

At home

Ther. MONDAY 8 Wea.

We visited Bachimba Cañon and collected *Lepidium sordidum*, Gray. 11.

Alcornoquea longiflora, Gray. 101
Cenchrus myosuroides, etc.

Learning that of the death of Rev. Mr. Sutton from small pox the Saturday before we came home with heavy hearts.

Ther.

TUESDAY, JUNE 9, 1885

Wea.

Fearing List we might
linger too long in this infected
country, I decided to return
to Vermont as once, without
stopping to make up the number
of my plants to 200; and ac-
cordingly went into town and
drew my deposit from the bank,
and got packing boxes, into which
by night we had put my collection.

Ther.

157

WEDNESDAY 10

Wea.

Shipped our three large cases
(five) to Paso del Norte, and
in the evening took train
for El Paso.

Ther.

THURSDAY 11

Wea.

The freight-train of this
day having been abandoned
on the way to Paso del Norte
my boxes did not arrive.

Ther.

FRIDAY, JUNE 12, 1885

Wea.

I arranged with the Quartermaster
of Ft. Bliss to ship to Washington
my collection.

Upon consultation with
the Deputy Collector of U. S. Cu-
stoms, El Paso, I decided that I
must pay duties on my Coll.,
and not having sufficient
money, took train to ^{El Paso} to negotiate
a draft on Chihuahua.

Ther.

SATURDAY 13

Wea.

A quiet day spent about Chi-
huahua. At night I took train
for El Paso.

Ther.

SUNDAY 14

Wea.

Sunday spent quietly in El Paso
15: A busy day spent in getting
my collection through the
Mexican Custom House in
Paso del Norte, through the
U. S. Custom House in El Paso
and shipping it through the
Post Quartermaster of Ft. Bliss.

Ther. MONDAY, JUNE 15, 1885 Wea.

(See the preceding entry.)

Ther. THURSDAY, JUNE 18, 1885 Wea.

Awoke at daylight to find ourselves making Pawnee Rock - Kansas.

At Florence we stopped off the train in order to visit cousin G. J. Pimble, in Douglas.

I spent the afternoon very pleasantly botanizing about Florence River bath.

Ther. TUESDAY 16 Wea.

We took train at 10.30 A.M., on the A. & T. & F. R.R. for home. I had provided myself with a reticulon holding paper and driers for collecting such plants as I might snatch en route. At Kincaid where the train stopped for dinner I was so fortunate as to secure *Sassa scoparia* ~~var. pub.~~ etc.

Ther. WEDNESDAY 17 Wea.

Awoke at Glanville, N.M., and at night-fall we were spending eastward from La Junta.

Ther. FRIDAY 19 Wea.

A dark and rainy morning. We left Florence early by train for Douglas.

Ther. SATURDAY 20 Wea.

In the afternoon returned to Florence —

Ther. SUNDAY, JUNE 21, 1885 Wea.

Took train in the A.M. for
Kansas City.

And went on in the evening
in the Hannibal & St. Joseph
R.R.

Ther. WEDNESDAY, JUNE 24, 1885 Wea.

Travell'd from Ogawka
to Chicago, where G. H. W.
parted from me about 4 P.M.
and went to St. Helens, Mich.

I staid all night at the
Bradford House near the C.
& N. W. depot.

Ther. MONDAY 22 Wea.

Reached Quincy early in the
morning and had to remain
there until evening to take the
train for Burlington.

Remained along the railroad
for some three miles east of the
town.

Reached Burlington before
dark and went to a hotel.

Ther. TUESDAY 23 Wea.

at 6 A.M. took train for Ogawka
where we spent the day visiting
Mr. Patterson & friends.

It was my fever day.

Ther. THURSDAY 25 Wea.

I rode from Chicago to
Lancaster to visit Aunt Martha
and her family.

Ther. FRIDAY 26 Wea.

Rainy -

Ther. SATURDAY, JUNE 27, 1885 Wea.

Rainy.

I consulted Dr. Clarke who prescribed a course of medicine for my fever, and assured me it would quite chase me of malaria.

Dr. P. A. Clarke,
East Dubuque,
Illinois.

Ther. SUNDAY 28 Wea.

A pleasant day - Cousin Ed. drove me out to Grand River and the prairie beyond where we botanized pleasantly.

On the mossy limestone ledges near the river I saw growing *Sullivania Ohioensis*.

Ther. MONDAY 29 Wea.

Ther. TUESDAY, JUNE 30, 1885 Wea.

With Aunt Martha, Cousin Annie and a friend of theirs visited at Mr. Utts six miles south of Lancaster.

(N.B. This entry should be for the 29th)

Ther. WEDNESDAY, JULY 1 Wea.

Miss. Watts took Aunt Martha, Annie and me in a carriage into the woods a mile and a half from (North) to get flowers of *Cypripedium spectabile*, etc.

(And this entry for June 30th)

Ther. THURSDAY 2 Wea.

Journeyed from Lancaster to Chicago; and, at 7:30 left Chicago on the L. S. & M. S. R. R. for Vermont.

(And the above for July 1st)

Awoke in northeastern Ohio and by night had reached Buffalo, N. Y.

Ther.

FRIDAY, JULY 3, 1885

Wea.

Reached Schenectady early in
the morning.
Rutland ~~at~~ about noon
and home before dark.

Ther.

MONDAY, JULY 6, 1885

Wea.

Ther.

SATURDAY 4

Wea.

Ther.

TUESDAY 7

Wea.

Ther.

SUNDAY 5

Wea.

Ther.

WEDNESDAY 8

Wea.

Ther. THURSDAY, JULY 9, 1885 Wea.

Ther. SUNDAY, JULY 12, 1885 Wea.

*G. H. Welcome rejoined me
at Charlotte.*

Ther. FRIDAY 10 Wea.

Ther. MONDAY 13 Wea.

Ther. SATURDAY 11 Wea.

Ther. TUESDAY 14 Wea.

Ther. WEDNESDAY, JULY 15, 1885 Wea.

Ther. SATURDAY, JULY 18, 1885 Wea.

Ther. THURSDAY 16 Wea.

Ther. SUNDAY 19 Wea.

Ther. FRIDAY 17 Wea.

Ther. MONDAY 20 Wea.

Ther.

TUESDAY, JULY 21, 1885

Wea.

Ther.

FRIDAY, JULY 24, 1885

Wea.

Ther.

WEDNESDAY 22

Wea.

Ther.

SATURDAY 25

Wea.

Ther.

THURSDAY 23

Wea.

Ther.

SUNDAY 26

Wea.

Ther.

MONDAY, JULY 27, 1885

Wea.

Ther.

THURSDAY, JULY 30, 1885

Wea.

Gained St. Louis about 5 A.M. where we stopped scarcely an hour. Taking the Iron Mountain Route we were some distance within the State of Arkansas by the close of day. The view from my car window, - the abundant and diverse flora of plain woodland and cypress swamp was full of interest to me.

Ther.

TUESDAY 28

Wea.

Ther.

FRIDAY 31

Wea.

With Geo. M. welcome again left home to return to Mexico. At Albany, reached about 3 P.M., I bought tickets via Binghamton, Salamanca, Cincinnati, St. Louis and Texarkana to El Paso.

Reached Binghamton in the evening and waited ^{there} till midnight.

Ther.

WEDNESDAY 29

Wea.

Ther.

SATURDAY, AUG. 1

Wea.

From Binghamton at midnight to Cincinnati by nightfall, then right on for St. Louis.

We breakfasted at Texarkana then on through more low swampy lands, oppressive with humid heat.

But by the middle of the afternoon we were out on the breezy open plains of Texas. We passed Dallas a little before dark.

Morning found us some distance west of El Paso. When passing Colorado a town of some size on the river of that name I noticed an unusually attractive flora on the river bluffs. Again among the Sand Hills at Mts. a small station a profusion of plants strange to me made me feel

There are some strange plants

Ther.

SUNDAY, AUG. 2, 1885

Wea.

We reached El Paso about
2 A.M. and took a room so
as to rest through the day.

At 6 P.M. were moving again
for Chihuahua. Had no
trouble in passing the Mex.
Custom House -

Ther.

MONDAY 3

Wea.

We reached Chihuahua
in the morning and settled
in our former room again.
In the afternoon we went down
to the Silver mill to see Mr. Wil-
kinson.

We find abundant rains have
brought up vegetation fine; many
species appear, whose presence was un-
suspected last spring. - Wea.

TUESDAY 4

On the gravelly plains near
the Silver Mill collected *Ludwigia*
Eriogonum ⁶⁹⁶ *var. brumbyi* and ^{Watson} *on* the
edges of **Cerro Coronel** *Strophia*
stenophylla, Gray. 677

#681 *Eriogonum abertianum* Don

Ther.

WEDNESDAY, AUG. 5, 1885

Wea.

Returned to Cerro Coronel
to gather *Eriogonum jametii*,
Gray, 680 and a grass,
Chionurus candidus, Hackl. 423

320 *Macrosiphum brachycephalum*

Ther.

THURSDAY 6

Wea. Gray.

694 *Macrosiphum Berlandieri*, Gray.

On the dry gravelly mesa west
of the city gathered a tiny
grass *Microleuca setacea*, ⁴²⁵ *Wats.*
and on the rocky bluffs further
on and about the river an
Acacia scarcely more than a
foot in height - *A. filicina*, Willd.
also *Guadalupea involucrata*, var.
arguta, Gray. 678. *Acacia* ³⁷⁰ *constricta* DC.

Ther.

FRIDAY 7

Wea. fr.

We returned to the river canon
above the city and collected *Pan-
icium avenaceum*, HBK.?, a large
Asclepias, *Sonchus stenophyllus*, Gray
n. sp., and fruit of *Mimosa*
propifera, ³⁷² *Watson* n. sp., and
of *Hoffmanseggia multiflora*,
Watson n. sp. 371

390 *Aristida americana*, L.

Ther.

SATURDAY, AUG. 8, 1885

Wea.

dried plants and fixed up
our room -

Ther.

SUNDAY 9

Wea.

wrote to Dr. Gray and Palmer.

In the afternoon went out on
the northwestern mountains and
collected *Tradescantia crassi-*
folia, Cav., var. *glabrata*, Clark.
691.

Ther.

MONDAY 10

Wea.

A day of disappointments -
Visited Bachimba Cañon only
to find it dryer than ever before.
The rains with the exception of
two or three light showers had
avoided the cañon -

Collected a species of the order
Acanthaceae 673 *Ruellia* Parryi.
Gray. 6 Train 3 hours late, so by hand
car (2 m.) on foot (7 m.) to Horcasitas to take
it after dark.

Ther.

TUESDAY, AUG. 11, 1885

Wea.

While George dried plants I collected
on the ledge north east of home.
697 *Aspicarpa Hartwegii*, Juss.
330 *Passiflora* in abundance, growing
on river banks
675 *Baccharis glutinosa*, Pers.

Ther.

WEDNESDAY 12

Wea.

In the Santa Catalina Mts., to find
them covered with fresh verdure.
Collected on the limestone hills
close by the end of the railroad
Boerhaavia paniculata, Rich.,
Triodia avenacea, HBK., 665 -
Stipa flexuosa, Vasey, 384.
Leucophyllum minus, Gray, 689

Ther.

THURSDAY 13

Wea.

512 *Aristida divaricata* Willd., var. 3.
On the N.E. hills again, where
I collected *Aristida Schindleri*
Trin. & Rupr. and *Galium Rothrockii*,
Gray, 661. I made the pleasing
discovery of a semicircle of
water-cut cliffs with a northern
exposure, in the partial shade
of which many choice plants
find favorable conditions.

Ther. FRIDAY, AUG. 14, 1885 Wea.

With Mr. Wilkinson and Joe
Verlin visited the Santa
Eulalia Mts., & collected
Bontonia oligostachya ^{Scribn.} ~~Don. v. ramosa~~
Vauquelinia conopsea ^{Gray} (in
fruit) *Solanum Jamesii* Don.
and *Coldenia Griffithii* Gray.
663 *Senecio multilobatus*, V. & G.
317 *Physalis microplysa*, Gray.
376 *Panicum Hallii*, Vasey ^{n. sp.}
385 *Stipa multinodis*, Scribn.

Ther. SATURDAY 15 Wea.

Attended to the drying of
plants in the morning in
the P.M. I collected on
the ^{Santa} eastern ledge Boer-
haavia ⁶⁵⁵ *androphylla*, Don.
and *Jamesii* Gracilis,
Gray 651.
665 *Boerhaavia gracillima*, ^{Siem.} ~~n. sp.~~

Ther. SUNDAY 16 Wea.

⑦ *Euphorbia pyramidalis* ^{Siem.} ~~n. sp.~~

Ther. MONDAY, AUG. 17, 1885 Wea.

In the A.M. by the Sacramento
R. we gathered *Reichardia augustifolia*, Michx.
Heterotheca Lamouchei,
Cass. 674 and fruit of *Vitis*
Arizonica, Engelm., 373 #
In the afternoon on the ledge
to the east I collected a *Nyctagin-*
aceous plant, — *Boerhaavia*
pilbosa, Pav. 693.
⑧ 674, *Heterotheca Lamouchei*, Cass.

Ther. TUESDAY 18 Wea.

We took the ore train with Mr.
Wilkinson for the Santa Eulalia Mts.,
but left it a mile or two before
reaching the end of the railroad
and started across the plains to
the limestone ledge to the right. Soon
on the gravelly mesa met with and
collected *Elinscarpus cheuopodioides*,
and in moister places *Thurberghia*
E. dactyloides ⁶³⁰ ~~n. sp.~~ ^{Siem.} ~~n. sp.~~ 286
on the ledge, *Portulaca* ^{Siem.} ~~n. sp.~~ 287

Ther. WEDNESDAY 19 334 Wea.

Along the railroad near the station
collected *Sibbaldia maximil.* ⁶⁷⁹ ~~n. sp.~~
put into papers 60 specimens
of *Muehlenbergia monticola*,
Siem. 396 brought in from the
Santa Eulalia Mts. and in the
P.M. coll. on the eastern hills
Panicum leucophaeum, HBK. 378
Carlowrightia ovata, Gray n. sp. 695
Muehlenbergia elongata, ³⁹⁸ ~~Scribn. n. sp.~~

Ther. THURSDAY, AUG. 20, 1885 Wea.

In the valley toward Nombre de Dios collected *Chloris submutica*⁶²⁴, HBK, and in the sandy plain near the railroad a prostrate *Acacia*, *A. biaciculata*, Watson n. sp. 662.

In the morning I set out alone for the cliffs on the farther side of the N.E. hills, and accidentally with out my pistol, when a Mexican following me, I turned back.

Ther. FRIDAY 21 Wea.

Well armed I went to those cliffs and collected *Eptochloa dubia*⁶²², *neesii*, *Silene thurberi*, Watson, and *Ageratum corymbosum*⁶⁶⁹, Sacc., together with *Muehlenbergia pumila*⁸⁷⁹, Seibum, and from the hilltops above the cliffs *Ronteloma Harvardi*, Vasey & 10.

Ther. SATURDAY 22 Wea.

Spent most of the day working over specimens, but around the railroad shops gathered *Gossypium thurberi*⁶⁹², *Gonolobus chilensis*⁶⁹², *Aristida* 513 unnamed, & 412 *Ronteloma trifida*, Thurb. 413 *Ronteloma vestita*, Seibum.

Ther. SUNDAY, AUG. 23, 1885 Wea.

In the enclosed lumber yard of the railroad gathered *Astilbe spinulosa*⁶⁸⁴, & *Chatochea caudata* Seibum.

421 *Tragus racemosus*, Scogg. 407 *B. oligostachya*, Torr., var. *pallida*, Seibum.

498 *Ronteloma polytachne* Torr. & major, Watson n. sp.

Ther. MONDAY 24 Wea.

456 *Aristida*, undetermined. We went up the Chihuahua river and its north branch west of town and collected *Gradiolites linearis*, Benth. *Raprostis* *Mexicana*, Vasey. *Siumbrum diffusum*⁶⁸², Gray. On our way by a water course in the suburbs of the city we gathered *Galinsoga parviflora*⁶⁸³, Cav.

Ther. TUESDAY 25 Wea.

With Mr. Wilkinson I visited the Santa Catalin Mts. and gathered *Ronteloma trifida*⁴¹², at their base and higher up *Acletotheca*⁶⁷¹ *wrightii*, K. & H. and *Acacia candel*, Bon. was suffering from an attack approaching cholera morbus. C. S. Robinson kindly sent his carriage to bring us home. #

Ther.

TUESDAY, SEPT. 1, 1885

Wea.

A great day for us on the mountain tops, where we collected
Spizella cinerea, *Ammodramus*, *B. o.*
Muehlenbergia Schaffneri, *Furn.*
Stevia serrata, Cap. 603
 659 *Salvia pallidifolia* Benth.
 var. *Andalucia* *Arnold* *nov.*

Owing to a misunderstanding about the time of leaving of the train we were left to sleep again in the granary.

Ther.

WEDNESDAY 2

Wea.

Passed a wretched night on the straw mow of the granary, for the place was infested by fleas, and showers during the night had caused five Mexicans, male and female, and an Indian, to crowd in with us. We walked back over the plain till 5 P.M. went from want of food collecting *Echeandria tenuiflora*, Cav. 666, and *Panicum reticulatum*, Jarr.

Ther. *the train left in night*
 479 *Muehlenbergia arizicola*, Benth.

a day spent at home closely occupied working over and drying the large collections of the two or three previous days.

* 379 *Panicum fasciculatum*, J.
 380 *P. reticulatum*, Vasey.

Ther.

FRIDAY, SEPT. 4, 1885

Wea.

In the forenoon on the eastern hills I finished collecting my set of *Tridactylis cuneifolia*, *glabrata*, and got several grasses in B. In the afternoon prepared to go to El Paso by evening train.

Ther.

SATURDAY 5

Wea.

A busy day in El Paso buying botanical paper and getting it through the Mex. Custom house. Searched the town in vain for drying paper. Got my box from home at the S. & P. freight depot, and found the food spoiled, but a lot of dryers and paper safe. Returned to El Paso at night.

Ther.

SUNDAY 6

Wea.

Out on the N.E. hills I collected *Muehlenbergia* (?) etc., after gathering in a gravelly railroad cut near the station *Eriogonum polycladon*, Benth. 644.

Ther.

MONDAY, SEPT. 7, 1885

Wea.

We visited the cliffs along the river above the city where we gathered fruit of the strange Asclepiad whose seeds have no pappus ⁶⁹⁶ *formosus* *stumpatus*, nor up and on the hills about the cliffs *Eryngium* ⁶²⁹ *Wrightii*, Gray, and a Bonaparteian plant, *Myrtifolia* *floribunda*, Gray. ⁶⁴⁶ *Helianthella* *Pringlei*, Gray. ³⁷⁴ *Psopalmum* *Hillebrandii*, V. C. S. Wea.

Ther.

TUESDAY 8

Wea.

I visited the Santa Eulalia Mts., and in the cañon a short distance above the station collected *Triodia* ⁴⁰⁵ *mutica*, Scrib., and *Aristida* *Orizaba*, Torr. ³⁸⁹

with fruit of *Cassia* *wislizenii*, Gray, (a shrub 4'-6') and *Mimosa* *biuncifera*, Benth. ³⁶⁷ *Pinus* *resinosa*, Ait. ²⁸⁷

Ther.

WEDNESDAY 9

Wea.

George and I went up to the summit of the Santa Eulalia Mts. and gathered *Seymeria* ⁶⁴⁷ *virata*, Kunth. *Viguiera* *decurrens*, Gray, 676. *Leucospermum* *flavum*, Schult. ³²⁸ *Calceolaria* *flavescens*, Schult. ³⁹² *Muhlenbergia* *gracilis*, Torr., and fruiting specimens of *Acacia* *filicina*, Willd. ⁶⁶ and *Cassia* *indurimuriana*, Schult. ⁴⁵² *Antholopus* *candidus*, Hook. var. *eritaca*, Sargent, &

Ther.

THURSDAY, SEPT. 10, 1885

Wea.

Again in the great cañon of the Santa Eulalia Mts. I collected *Salvia* *pentstemon*, Gray, 658 *Verbesina* *Chihuahuensis*, Gray, n. sp. and *Stipa*

³⁸⁶ *Aristida* *uniaristata*, Vasey

Ther.

FRIDAY 11

Wea.

We set out for the Santa Eulalia Mts. but on the way the train encountered washouts, which occupied its attention nearly the entire day; so on the plain we botanized with excellent success getting *Salvia* *lanceolata*, Willd., 654 *Pectis* *tenella* L., 648, a small flowered composite, *Gutierrezia* ⁶²² *sphaerocephala*, and *Artemisia* ⁶²⁵ *Pringlei*, Griseb. ¹¹⁵⁰

Ther.

SATURDAY 12

Wea.

On the rocky hill near Miller's dam I collected *Coffea* ⁴²⁰ *pappopharoides*, Kunth, and *Muhlenbergia* *aspina*, L., ⁶³³ with parts of sets of several other species.

⁴⁷⁸ *Muhlenbergia* *texana*, Vasey.

Ther. SUNDAY, SEPT. 13, 1885 Wea.

I spent the day among the cliffs of the eastern hills, and brought in numerous species in limited numbers.

Ther. MONDAY 14 Wea.

We went to the eastern hills and finished collecting a one-awned *Aristida*, *A. uniaristata*, Vasey (?)

Knapphalium brightii, Gray³⁶⁹ and *Thelypodium micranthum*, Watson. ⁶³⁶

³⁶² *Abutilon malacum*, Watson^{n. sp.}

Ther. TUESDAY 15 Wea.

On the Santa Dulalia Mts. we collected *Artemisia Mexicana*, Willd., ⁶³⁶ *Notholacca*, ⁴⁵¹ *niven*, Torr., and *Rhus*

³²⁴ *Missilia Pringlei*, Rose n. sp.

Ther. WEDNESDAY, SEPT. 16, 1885 Wea.

About the northeastern hills I collected an annual *Scorodinium*, *S. spirale*, DC. 612, *Setaria mic- seta*, ³³⁸ *Jaume*, *Muehlenbergia Ar- isonica*, Scribn., ⁴⁰² and completed my specimens of *Cyperus Scheria- itzii*, Vasey. 310.

* *Chatochloa grisebachii*, Scrib. 216 *Linnaea multiflora*, L.

Ther. THURSDAY 17 Wea.

On the summit of the Santa Dulalia Mts. we collected ³¹³ *Gymnosperma corymbosum*, DC. *Muehlenbergia* ⁴⁰¹ *ripida*, *Vern.*? and a Rubiaceous plant, *Cuscuta subulata*, Gray. 314.

Ther. FRIDAY 18 Wea.

Bontelma aristoides, Thunb. 477.

Along the railroad south of the Station we gathered *Euphorbia adscap- tura*, ³²⁶ *Ratol.* *Linnaea* ³¹⁶ *parciflo- ra* L., and *Gomphrena* ³¹⁵ *nitida*, *Rostr.*

Then in the afternoon in a gulch below the north eastern hills I collected *Abutilon Sonora*, Watson. 329. and *Acalypha* ³²³ *Neo-Mexicana*, Müll.

Ther. SATURDAY, SEPT. 19, 1885 Wea.

I went to the Santa Tulalia Mts., and in the cañon above the station collected a *Mentzelia* with tuberos thickened roots, *M. hispida*, Willd. 616. an orange-flowered Composite, *Eucelia texaristata*, Gray, 321 *Phacelia congesta*, Hook. 364 etc.

Ther. SUNDAY 20 Wea.

wrote to Parry, Patterson and Long.

In the evening I went out into a neighboring field and collected *Panicum capitis-acti*,³⁷⁴ Swartz, for self besides several other grasses in 105 - 1453

Ther. MONDAY 21 Wea.

We again visited the river cliffs west of the city and gathered *Erymaria gracilis* Ch. Voch., *Brickellia oligantha*,³⁵⁰ Gray and parts of sets of other plants. 323 *Brickellia Wislizeni*, var. *crinitifolia* Gray.

Ther. TUESDAY, SEPT. 22, 1885 Wea.

Again about the river cliffs I finished sets of *Corysa conferta*,³⁶¹ Gray and *Corysa sophiaefolia*,³⁶¹ Gray, *Ipomoea longipolia*,³⁴⁶ Benth (fruit) and a *Brickellia oligantha*, Gray, 350

In the evening took train for El Paso.

Ther. WEDNESDAY 23 Wea.

In El Paso and Paso del Norte - got botanical paper through Mex. Custom House and turned back to Chihuahua by evening train.

Saw the eclipse of the moon.

Ther. THURSDAY 24 Wea.

After putting plants in order in our room we collected along the banks of the Sacramento River *Solidago canadensis*,³³⁸ var. *canescens* Gray, and *Rhynchosia macrocarpa*,³³⁹ Bth., and along the railroad *Euphorbia stictospora*, Engelm. 327.

Ther.

FRIDAY, SEPT. 25, 1885

Wea.

About the base of the Santa Eulalia Mts. we gathered *Phacelia* ³⁴⁴*atrovirens*, DC., and a small flowered *Gypsophila*, *Gutierrezia euthamiae*, var. *microcephala*, ³³⁷besides many others in limited numbers -

342 *Margaranthus solanaceus*, Schk.
325 *Bouchea Ehrenbergii*, Cham.

Ther.

SATURDAY 26

Wea.

I returned to the Santa Eulalia Mts., and spent the day in a great Arroyo near their base collecting *Horosiphia* ³⁵⁴*triplex*, DC., *Montanoa* ³⁵³*vestita*, B. & P., 413

347 *Barroetia subulifera*, Gray, and parts of sets of various other species -

Ther.

SUNDAY 27

Wea.

Towards noon I went southward along the railroad and collected a *Salvia*, *S. Lemmonii*, Parry ³⁹⁷ and in the afternoon revisited a favorite gulch beyond the Sacramento, where I gathered *Bromodinium* ³¹⁹*psilocarpum*, Gray?

635 *Briekellia elipanthus*, var. *crebra*, Gray.

Ther.

MONDAY, SEPT. 28, 1885

Wea.

Still another *Muehlenbergia* found on the northeastern hills where besides I completed sets of *Diogenium* ²⁸⁵*atrovirens*, Engelm., *Scamodinium* ⁶⁴*Grahamii*, Gray, & *Erösina* ³⁸⁴*elosioides*, L. 384.

357 *Indigofera* ³⁵⁷*sphaerocarpa*, Gray.
318 *Scamodinium* ³¹⁸*batocaulon*, Gray.
M. Lemmonii, Scribn., 395.

Ther.

TUESDAY 29

Wea.

I glanced over the cliffs of the eastern hills and more to finish sets of *Gypsophila* ³¹¹*Knockleyi*, Britton, *Arenaria* ³³²*almondoides*, Willd., 332 and a tuberous rooted composite, *Texmenia podoccephala*, Gray, 349.

Ther.

WEDNESDAY 30

Wea.

On a dry gravelly hill ^{about a mile} south of the station I collected *Paronychia* ³⁴¹*Wilkinsonii*, Watson & G. on rocky ones and on walls of gulches below them I finished *Elytharia* ³³³*tridentata*, Vahl, in the ⁶⁴⁴valley about the ⁶⁴⁴Silvers mill of ⁶⁴⁴Salmon River, ⁶⁴⁴near by ⁶⁴⁴Spencerhardt's ⁶⁴⁴peninsula, ⁶⁴⁴and on ⁶⁴⁴cliffs ⁶⁴⁴*Gicranus leptocadus*, Mark.

Ther. THURSDAY, OCT. 1, 1885 Wea.

On the northeastern hills collected
*Eupatorium*⁶²³ *occidentale*, v. *arizonae* *cliffi*.
 fruit specimens of *Mimosa digonocarpa*
 Benth. & finished sets of *Schkuhria*
 607 *wrightii*, Gray, bristles extending
 or beginning sets of several
 other species.
 297 *Melanopodium virgatum* HBK.

Ther. FRIDAY 2 Wea.

At the Silver mill too late for the
 morning train, so we turned to the
 N.E. hills and come upon a clump
 of singular knobby craps with plate of
 soil inaccessible to goats, where we
 found another *Stevia*, *S. serrata*, Cav.
 var. 602, and an abundance of
Heterospermum pinnatum Cav. and in
 shade of cliffs a little *Cornus*, with
 odor of fennel, *Taxites micrantha*, Cav.

Ther. SATURDAY 3 627 Wea.

I spent the day along the railroad
 just below the Santa Delia Station
 Mr. Wilkinson who had carried the
 money up to the mines joining me in
 the P.M. and coll. *Salvia brachy-*
stachys, Gray, var. 601 and *Prinos*
echinata, Less. birds
Sauvotelia Alberti, Gray⁶²⁴ and
Anoda parviflora, Cav., var. 283

Ther. SUNDAY, OCT. 4, 1885 Wea.

wrote letters to Ernest and to Fred.

In the afternoon I collected
 near by *Trachaloba*, Gray,
 280 and a species of
Sporobolus, *S. cryptandrus*, Gray.

419

"Christ or no Christ."

Ther. MONDAY 5 Wea.

We passed some six miles up the
 Sacramento Valley and then entered
 the N.E. hills opposite that point,
 where we finished collecting *Galactia*
wrightii, Gray and *Buchnera*²⁸²
pilosa, Bth and coll. a shrubby *Salvia*, *S.*
621
plumosa, Watson n. sp. *Corypha quinquali-*
vites, HBK. 634 and *Baccharis Ripe-*
lorii, Gray. In the Sac. Valley we had
 secured *Columbia fennestrata*, Cav.⁶¹⁴

Ther. TUESDAY 6 Wea.

a strange thing happened
 for Northern Mexico. - an
 entire rainy day, dismal
 and cold, like a northern
 equinoctial.

I did not gather a single
 specimen. *Sium pallidum*.

Ther.

WEDNESDAY, OCT. 7, 1885

Wea.

On the northeastern hills I collected *Brickellia Wrightii* Gray, 605.
Chilanthus Wrightii Hook. and a delicate annual *Muhlenbergia*, *M. Buckleyana*, Scribn. 399.

Ther.

THURSDAY 8

Wea.

On the N.E. hills I continued gathering *Chilanthus Wrightii* Hook. up to 70 specimens, then took *Brickellia Wislizeni* v. *paniculata*, and *Viguiera cordifolia*, Gray, 603. Meanwhile gathering ferns to send home in a live state, and ended the day with a long fruitless search over rough foot-hill hills to the north, then finding *Mimosa* *Pinnatifida*, Watson n. 9.

Ther.

FRIDAY 9

Wea.

461 *Pellaea intermedia* v. *pubescens*, Mett.
 In the Santa Catalina Mts. we spent most of our time gathering fern crevices of the limestone cliffs *Notholana candida*, var. *extensa*, and then took in *Eupatorium Wrightii*, Gray, 600.
 462 We also took *Chilanthus Wrightii* Hook. and a species of fern, *Notholana Asch.*
 463 *Verbena* and *Sida* *viridula* Kaulf.

Ther.

SATURDAY, OCT. 10, 1885

Wea.

On the N.E. hills I began collecting *Sponia cardiophylla*, Gray, in a shaded crevice of a cliff I found a few specimens of *Adiantum tricholepis*, etc.
 + Collected sets of *Iva ambrosioides* Gray, and *Epicaurpes lanata*, Presl. 391.
 608 *Carmichaelia tenuifolia* DC.
 294 *Thelypodium Wrightii*, Gray.

Ther.

SUNDAY 11

Wea.

Near the Sacramento in a gravelly gulch I collected *Hymenoclea monophylla*, T. & G. On ridges near by began *Trigonum Wrightii*, T. & G. 1284 and in the evening gathered *Brickellia floribunda* v. *amblyolopis* among the slag piles near our house.

Ther.

MONDAY 12

Wea.

arrived in El Paso by night train from Ch^o. found dryers at the R.R. which Ford had sent from home, and mailed to him packages of these ferns, - *Notholana sinuata*, *grayi*, *ferruginea*, and *hookeri*, and *Chilanthus Wrightii* and *Linum*.

B. petrophila, Rob. & Gray. Cl 0

Ther.

TUESDAY, OCT. 13, 1885

Wea.

Back at Chilmahua in the morning I gathered still another *Brickellia*, *B. ~~personi~~ capitata*, from the N.E. hills and in the P.M. George and I collected on the mesa near G. *Aristida filifolia* Scribn. ³⁸⁸ n. sp. and on the banks of the Sacramento *Epicampis ringens*, Benth. 417.

Ther.

WEDNESDAY 14

Wea.

L. viscosa, Hook.

We walked eight or nine miles to the north and entered the hills east of the railroad where we gathered *Ranunculus coccineus*, Gray n. sp. fruit of *Chrysomela* ³⁸⁵ *undulata* n. sp. *Baccharis thesioides*, HBK. ⁶¹⁹ and a composite.
 615 *Gymnoloma longifolia*, Rob.

Ther.

THURSDAY 15

Wea.

owing to the wrecking of a freight train far to the south the north-bound passenger train ^{of yesterday} did not reach Chico till daylight. I missed the opportunity to ride to Sacramento Station, 14 miles north, whence I walked back via the N.E. hills. In the plain I col. a composite *Silene linearis*, Schult. Bip. 645 and on the cliffs several parts of *Silene*. Met with *Senecio* & *Geranium*.

Ther.

FRIDAY, OCT. 16, 1885

Wea.

In the cañon above the Santa Fe ^{RR} Station I collected *Parthenium lyratum*, Gray, and *Brickellia* ⁶³¹ *laciniata*, Gray, with fruit of *Saxifraga* ¹⁴⁹ *whitneyi* Watson and of *Rhus virens*, Lindl. ³⁵⁷
 357
 415 *serapiotis* *rosa* Scribn. n. sp.

Ther.

SATURDAY 17

Wea.

Visited a series of fine cliffs with northern exposure on the N.E. hills about 8 miles distant and collected *Salvia* ⁶³⁷ *Grahami*, Benth., var. *Pellaea cordata*, J. Smith 448 and *Andropogon cirrhatus*, Hackl.
 382
 # *Salvia microphylla* A. N. S.
 var. *canadensis*, Gray, test. formal.
 641 *Brickellia* *simplex*, Gray
 did not leave the hill till sunset, a long walk but one well rewarded.

Ther.

SUNDAY 18

Wea.

A day of rest except that I climbed Cerro Colorado with Mr. Olmstead. Found the altitude of the summit according to my aneroid about 1000 feet above that of Chilmahua Station or some 5,600 above sea level.
 wrote to Harris.

572 *Cyperus incompletus*, Kunze.

638 *Vidua bicolor*, Gray.

Ther. MONDAY, OCT. 19, 1885 Wea.

In a canon among the north western hills and about 7 miles distant from the station we gathered a rayless, white-leaved composite plant, fruit of a sp. of *Apocynaceae*, *Trachelospermum stans*, Gray n. sp., *Kuhni* ⁶⁴⁹ & *Rosmarinifolium* Gray (4th) ⁶³⁸ *Stem.* *S. serrata*, Cav. var. *Salvia lavifolia*, Gray, 642 and *Chilanthus tomentosa*, Link. var. *Eatonii*, Vancouver, 654.

Ther. TUESDAY 20 Wea.

About eight miles away on the N.E. hills I collected *Muehlenbergia Berlandieri*, Vain. 403 *Artemisia dracunculoides*, Pursh, and finished a heavy scented *Abutilon*, ³⁶⁶ *A. dentatum*, Rose n. sp. besides getting new specimens of *Psilostemum complanatum*, Spring, growing from seams of ledges.

Ther. WEDNESDAY 21 Wea.

We returned to the great canon of the N.W. hills and collected. ³⁰³ *Achatopogon pinnatifidum*, Gray n. sp. ³⁰³ and *Mammillaria Wrightii*, Gray, besides many or less of many other species - Under high cliffs, ⁴ *Lesqueria glandulosa*, Don. ⁵⁸⁴ *Conoclinium intermedium*, Gray. [#] *Zaluzania discordea*, Gray n. sp.

Ther. THURSDAY, OCT. 22, 1885 Wea.

A day devoted to rest and to arranging plants -

295 *Alternanthera aelysantha*, ^{R. Br.}

Ther. FRIDAY 23 Wea.

397 *Muehlenbergia calymnophylla*, Kunze. We went a third time to the great canon of the N.W. hills. Following it up we collected *Muehlenbergia Buckleyana*, Scribn. 400 and *Asplenium Trichomanes*, v. *repens*, ⁴⁴⁴ and were at work upon *Woodsonia Mexicana* when a thunder storm accompanied with large hail stones to whiten the ground came. A rock sheltered us, then we waited & stream homeward. Ther. The SATURDAY 24 Wea.

³ *B. glandulosa*, Greene n. sp. We went to Horcasitas by train in the hope of finding on the hill about there *Polkaea aspera* and could find but a trifling of it there. On plains near by collected two composites - ⁵⁰⁸ *Bahia biternata*, Gray, ⁵⁰⁷ and *Spodia cancellata*, Gray.

Ther. SUNDAY, OCT. 25, 1885 Wea.

I went to the N.E. hills to gather more specimens of *Pellaea cordata*, J. Smith and less than a mile south of the first station for this plant found another group of crags and cliffs where it was far more abundant. Gathered three *Gnaphalium Punglii*, Ray n. sp. 305.

Ther. MONDAY 26 Wea.

With George I returned to the cliffs last mentioned and we collected *Euscuta obtusiflora*, HBK. 291, *Loeselia glandulosa*, Don, 298 and *Polypodium thysanolepis*, Al. Br. 443.

Ther. TUESDAY 27 Wea.

I collected on the summit of the Santa Eulalia Mts, fruit of *Salvia tuberculata*, Cav., var. ³⁰¹ a species of *Helianthemum*, *H. glomeratum*, Lagasch, 300 and 299 *Polygala*, *P. alba*, Nutt. var. *Crachyolachya*, Chodat, near. Found vegetation near the end of its course.

Ther. WEDNESDAY, OCT. 28, 1885 Wea.

We made a long tour and one almost fruitless among the N. W. hills, there the hail storm had abruptly closed the season for collecting, which was already getting late.

Received letter & drafts from Fred -

Ther. THURSDAY 29 Wea.

George and I went up to Santa Eulalia Mines, received a letter from Mr. Robinson to the S. S. M. Co's agent in Santa Eulalia village, went over to the village finding almost nothing to collect on the way, made a bootless search over the hills for *Spiranthes*, returned to the valley, ^{Friday 30} ~~received~~ ^{received} *Persea* ^{W. & C.} ~~received~~ ^{received} *292* ²⁹² *Howensis* ^{Howensis} *cinnam.* ^{cinnam.} *oc.*

In the forenoon I clambered over the N.E. hills searching certain cliffs and crags in a vain endeavor to find another station for *Adiantum tricholepis*, Zucc., then in the valley below gathered ~~some~~ specimens of *Ambrosia aptera*, DC. 289. In the afternoon visited the bank.

Ther.

SATURDAY, OCT. 31, 1885

Wea.

We went once more into Radin
ca Cañon (getting off the train at
the tank) and collected a good
quantity of *Pellaea aspera*, Baker.
To take the train we walked
nine miles during the evening
to Horcasitas Station, where,
(the train not coming till after
9 A.M. next day) we slept on the
bare floor of the station house.

Ther.

SUNDAY, NOV. 1

Wea.

A day of rest to us.
Soaked out my specimens of
Pellaea aspera, collected quite
dry and shrivelled up -

Ther.

MONDAY 2

Wea.

We collected ferns (especially
Cheilanthes microphylla, Sw.)
in the cañons of the Santa Catalina
Mts. Besides the one mentioned,
which is designed for sets,
Cheilanthes microphylla, ⁵⁰³ and
Eaton, *Notholaena sinuata* and
Pellaea porteri were gathered.

Ther.

TUESDAY, NOV. 3, 1885

Wea.

We visited the Santa Catalina
Mts. to photograph the Bus-
tillos mines, etc.

The day mostly cloudy.
583 *Perezia platyphylla*, Gray.

Ther.

WEDNESDAY 4

Wea.

During the forenoon I worked
over specimens at home, and
in the afternoon went five miles
up the Sacramento Valley to
collect *Aster heppianus*, Gray, ²⁸⁵ and
Artemisia Mexicana, Willd.
and finish *Ambrosia aptera*, etc.

Ther.

THURSDAY 5

Wea.

522 *Phanera revoluta*, Rose
We went to Mapula Station,
14 miles to the south, by morning
train and thence walked 7 or 8
miles eastward to the summit of
the Santa Catalina Mts. which lie
south-east of the village of ⁵⁰³ Collected
Pellaea ternstroemia, ⁴¹⁶ and *Muhlen-
bergia gracilis*, Trin. 393
Saw several plants, now past season
strange time and regretted I could
not stay longer.

Ther.

FRIDAY, NOV. 6, 1885

Wea.

During the forenoon worked upon specimens brought in last evening; and after dinner gathered *Sporobolus*⁴¹⁸ *depauperatus* Scribn. in the Sacramento Valley -

Ther.

MONDAY, NOV. 9, 1885

Wea.

Engaged as yesterday -

Ther.

SATURDAY 7

Wea.

In the A.M. I collected on the Acquisti hill west of the city *Artemisia redolens*, Gray n. sp. 296

In the afternoon commenced packing my collections for the journey home -

Ther.

TUESDAY 10

Wea.

Finished putting my collection in order -

Ther.

SUNDAY 8

Wea.

Closely engaged upon my collection, taking out a set for sending to the authorities for names and another for taking home with me also to be early mounted into my own herbarium and tying all securely for packing -

Ther.

WEDNESDAY 11

Wea.

Procured in the city two more packing cases, and after filling these with specimens shipped them⁴ to Paso del Norte -

Ther. THURSDAY, NOV. 12, 1885 Wea.

I went to the summit of the Santa Catalina Mts, and dug 75 bulbs of Calochortus

Ther. SUNDAY, NOV. 15, 1885 Wea.

Took more views in the city and at the silver mill -

The train did not arrive until midnight when we bid good bye to Chihuahua, and started homeward -

Ther. FRIDAY 13 Wea.

Once more among the Sta. Catalina Mts., where we took photographs of the station at the end of the railroad, of Las Virion and of the great cañon (2). Missed the train and walked back to the silver mill (some 8 mi.) in time to get dinner and take some views

Ther. SATURDAY 14 Wea.

we spent the day taking photographs about the city of Chihuahua.

Ther. MONDAY 16 Wea.

Reached Paso del Norte 8 A.M.

A very busy day in Paso del Norte and El Paso getting my collection through the Mex. and the U.S. custom houses, banding the cases, and delivering to the Quartermaster of Ft. Bliss for shipment to Washington.

Ther. TUESDAY 17 Wea.

Between 3⁰⁰ and 4⁰⁰ A.M. we left El Paso, by the Texas & Pacific R.R.

By nightfall we were near Big Springs, Texas -

Ther. WEDNESDAY, NOV. 18, 1885 Wea.

We gained Dallas soon
after daybreak, and reached
Texarkana about dark -

Ther. SATURDAY, NOV. 21, 1885 Wea.

Reached Schenectady 5.30 A.M.,
Rutland at 12.30, and
Charlotte Station at 5.50 P.M.

Ther. THURSDAY 19 Wea.

Morning found us beyond
Newark in N.E. Arkansas
and by dark we were in
St. Louis. Changing to the "Bee
Line" railroad we crossed
Illinois in the night and
passed Indianapolis.

Ther. SUNDAY 22 Wea.

Ther. FRIDAY 20 Wea.

It was two or three hours
past daylight when we
entered Ohio.

Cleveland was passed
about 4.00 P.M.

At Buffalo we changed
to the N.Y. Central.

Ther. MONDAY 23 Wea.

Ther.

TUESDAY, NOV. 24, 1885

Wea.

Ther.

FRIDAY, NOV. 27, 1885

Wea.

Ther.

WEDNESDAY 25

Wea.

Ther.

SATURDAY 28

Wea.

Ther.

THURSDAY 26

Wea.

Ther.

SUNDAY 29

Wea.

Ther.

MONDAY, NOV. 30, 1885

Wea.

Ther.

THURSDAY, DEC. 3, 1885

Wea.

Ther.

TUESDAY, DEC. 1

Wea.

Ther.

FRIDAY 4

Wea.

Ther.

WEDNESDAY 2

Wea.

9

Ther.

SATURDAY 5

Wea.

Ther.

SUNDAY, DEC. 6, 1885

Wea.

Ther.

WEDNESDAY, DEC. 9, 1885

Wea.

Ther.

MONDAY 7

Wea.

Ther.

THURSDAY 10

Wea.

Ther.

TUESDAY 8

Wea.

Ther.

FRIDAY 11

Wea.

Ther.

SATURDAY, DEC. 12, 1885.

Wea.

Ther.

TUESDAY, DEC. 15, 1885

Wea.

Ther.

SUNDAY 13

Wea.

Ther.

WEDNESDAY 16

Wea.

Ther.

MONDAY 14

Wea.

Ther.

THURSDAY 17

Wea.

Ther.

FRIDAY, DEC. 18, 1885

Wea.

Ther.

MONDAY, DEC. 21, 1885

Wea.

Ther.

SATURDAY 19

Wea.

Ther.

TUESDAY 22

Wea.

Ther.

SUNDAY 20

Wea.

Ther.

WEDNESDAY 23

Wea.

Ther. THURSDAY, DEC. 24, 1885 Wea.

Ther. SUNDAY, DEC. 27, 1885 Wea.

Ther. FRIDAY 25 Wea.

Ther. MONDAY 28 Wea.

Ther. SATURDAY 26 Wea.

Ther. TUESDAY 29 Wea.

Ther. WEDNESDAY, DEC. 30, 1885 Wea.

MEMORANDA

Each powder = $\begin{cases} 10 \text{ gr. quinine} \\ 3 \text{ gr. Capsicum} \end{cases}$
12 powders

Two powders ~~each~~ every sixth day - one before breakfast and one before dinner, - four courses, - or until my ears ring if three powders are required.

Small periods - one twice
a week at bed time -

R. P. A. Clarke,
East Dubuque,
Illinois-

MEMORANDA

MEMORANDA

MEMORANDA

MEMORANDA

MEMORANDA

MEMORANDA

CASH ACCOUNT. JANUARY.

Date.		Received.	Paid.
2	Postage		1 40
4	Postage		50

CASH ACCOUNT. JANUARY.

Date.	Received.	Paid.
31 Postage		1 85-
Ex p. to Patterson		2 40
Freight to N.Y.		2 90
Expressage		90

CASH ACCOUNT. FEBRUARY.

Date.		Received.	Paid.
2	Plant prison		3 50
	2 pairs of shoes		8 00
	Cuick plant		6 00
	G. H. W. (Chas)		8 00
9	Boxes, distrib.		14 40
10	Tin Camera box		1 50
	Mending straps		80
12	G. H. Welcomes, Cash		1 00
16	Clothes (suit + pants)		21 50
	2 Shirts		6 00
	Tie		50
	Heavy twine		75
	White twine		35
	Box cartridges		75
	Knife		65
	Tweezers		10
	Solid cup		90
	Cleaning watch		1 00
	Pocket book		1 50
	1/2 ream paper		40
	G. H. Welcomes, Cash,		37 62.
18	Paid Kate B. Hewitt		62 55
	Bot. Garrett + adv.		2 00

CASH ACCOUNT. FEBRUARY.

Date.		Received.	Paid.
20	Ague, bot. pick		2 50
25	Quinine		1 00
	Freid. Thomas		50
	2 tickets Charlotte - K.C.		60 50
27	Chicago.		
28	Kansas City, Room		1 00
29	Meals + food		1 05
	Paper		12 96
	G. H. W.		2 00
	Stat		1 00
	Envelopes		20
	Baggage excen		4 +

CASH ACCOUNT. MARCH.

Date.		Received.		Paid.	
4	Hotel, El Paso, Raffage mess			5-00	1-20
5	Hotel, Chihuahua, Break ~ Meals			1-48	1-00 66
6	Room rent G. H. W. Postage stamps Meals			5-00	1-00 1-00 1-34
7	Meals			1-00	
8	Meals 2) Bull-fight			1-34	1-00
9	Meals Pistol & belt			1-34	16-00
10	Meals			1-34	
11	Meals G. H. W. Room Mrs. Hayne			1-00	6-00
12	El Paso - Meals Freight on paper G. H. W. Pistol & 100 Cartridges Meals (1.) & food (1.10)			1-20	60 80 4-50 2-10
13	G. H. W.			1-00	
13	2) Lookings			1-00	

CASH ACCOUNT. MARCH.

Date.		Received.		Paid.	
15	2 Farm 2 - A. Cal.			5-00	
16	Hotel Aguas Calientes (2) A. C. - 2 Porter			3-00	5-00 1-28
17	Hotel Zacatecas (2) Break, etc.,			6-00	5-00
19	Break, etc., 2 Meals			7-50	67 1/2
	Chusis + Carne Seco			37 1/2	
21	2 Meals			67 1/2	
22	2 Meals			67 1/2	
	Break, etc., \$5.00, Chusis \$5.00, Beef (\$5.00)			5-00	
23	2 Meals			67 1/2	
24	2 Meals			67 1/2	
25	2 Meals			67 1/2	
	Break (\$5.00) Chusis (\$5.00)			1-00	
26	Meals			67 1/2	
27	Meals			67 1/2	
28	Meals			67 1/2	
	Break + Chusis			1-00	
30	2 Meals (1st L. house)			1-00	
31	4 Meals Break			1-33	5-00
30	G. H. W.				5-00

CASH ACCOUNT. APRIL.

Date.	Received.	Paid.
1	Meals	67 1/2
	Bread	50
2	Meals	67 1/2
3	Meals	67 1/2
	Bread, Cheese, Oranges	1 25
	G. St. W.	2 00
4	Meals	67 1/2
5-	Meals	67 1/2
	Bread & Cheese	1 00
6	Meals	67 1/2
7	Meals	67 1/2
	Bread & Cheese	1 00
8	Meals	1 33
9		
10	Meals	1 33
	Bread, Cheese, & beef	1 50
11	Meals	67 1/2
12	Meals	67 1/2
	G. St. W.	5 00
	Room rent (for May 12)	5 00
13	Meals	1 00
14	Postage Stamps	1 00
	Bread etc	50
	Cheese & candles	1 00
	Dried Beef	50
15-	Meals	67 1/2
16	Bread & dried beef	1 00
	2 Meals	67 1/2
17	Meals	67 1/2

CASH ACCOUNT. APRIL.

Date.	Received.	Paid.
18	Bread & cheese (.50 + .50 =)	1 00
19	Meals	67 1/2
20	Meals	67 1/2
21	G. H. W.	2 00
	Meals	67 1/2
	Bread & cheese (.50 + .50)	1 00
	Putting taps on shoes	75-
22	Meals	67 1/2
	Bread & cheese	1 00
23	Meals	67 1/2
24	Meals	67 1/2
	Bread (30) cheese (20)	1 25-
25	Meals	67 1/2
	Bread (30) cheese (20)	1 25-
	Bread (30) (dried beef) (50)	1 00
26	Meals	67 1/2
27	Meals (4), Jimmies,	1 33-
28	Meals " "	1 33
29	Meals	67 1/2
	Bread & cheese	1 00
30	Meals	67 1/2
(26)	G. H. W.	1 00)

CASH ACCOUNT. MAY.

Date.	Received.	Paid.
1 Meals		67 1/2
2 Meals		67 1/2
Bread &		50
3 Meals		1 33
4 Meals (El Paso)		1 00
5 Meals " "		75-
(5) G. H. W. (Am. Silver for mail)		50
G. H. W. (Mex. Silver C. W.)		3 00
(4) M.O. for paper (Gold)	15-	15-
Room (Am. Silver)		1 00
6 1 Meal		33 1/2
Bread 50 + Cheese 1 00 =	1 50	
G. H. W.		2 37
7 Meals		1 00
8 Meals		67 1/2
9 Meals		
Bread		68
Alcohol + bottle G. H. W.		75-
10 " "		75-
Meals		67 1/2
Bread		60
11 Meals		67 1/2
Book		75-
12 Meals (Jimmies)		1 67 1/2
13 Meals " "		1 33
14 Meals " "		1 33
15 Meals " "		1 33
16 Meals " "		1 33
17 Meals " "		1 33
18 Meals (Jimmies - Ch ^a)		3 00
" G. H. W.		75-

CASH ACCOUNT. MAY.

Date.	Received.	Paid.
19 Meals (Chihuahua)		1 33
19 Bread		50
20 Meals		1 33
21 Meals		1 00
Bread		50
G. H. W.		1 00
22 Meals		1 33
23 Meals		1 33
24 Bread		50
" Cheese		1 00
" Suet Cuf		50
" Meals		1 33
25 Meals		1 33
26 Meals		1 33
Bread		50
27 Meals		1 33
28 Meals		1 33
Sorghum		25-
Appricots		30
29 Meals		67 1/2
30 Meals		1 33
Horse car fare (4)		46
31 Meals		1 00
Bread etc		50

CASH ACCOUNT. JUNE.

Date.		Received.	Paid.
1	Meals		1 38
	Apricots		30
2	Meals	1 33	
3	Meals	1 29	
	Bread		50
4	Meals	1 33	
	Apricots		25
5	Meals	1 33	
	Apricots	1 25	
	G. H. W.	1 00	
6	Meals	1 66	
7	Meals	1 66	
8	Meals	1 66	
9	Meals	1 66	
	Apricots		75
3	Packing Boxes	5 50	
	Cartage "		75
10	Meals	2 00	
	Marking fluid		25
	2 * Hair		50
	C. D. manifest		2 50
	Trayman	1 00	
11	(El Paso) Meals	1 35	
	Hair cutting		35
	Fruit		25
12	Meals. - 50 + 75 ^{paper}	1 25	
	July + Expressage	9 00	
12	Basket	1 00	
	Peaches		50

CASH ACCOUNT. JUNE.

24			
(2) Oquawka - Chicago		12 96	
G. H. W. Ch - St. Helen		15 00	
Baggage transfer		1 50	
Lunch		25	
Baggage checked in depot		20	
Room hotel		1 00	
25 - Breakfast		40	
Fruit -		45	
Ch - Lancaster		7 40	
27 Medical advice		2 00	
29 Carriage		4 00	
17 meals		1 45	
18 Necktie		25	
Peaches		20	
19 Hotel (Florence)		2 00	
Florence - Douglass (2)		3 22	
Dinner		25	
20 Douglass - Florence (2)		3 22	
Hotel (Florence)		1 50	
Dinner (Florence)		1 50	
Baggage transfer		1 00	
(2) K. C. - Burlington		1 00	
Fruit (4.50) Room K. C. (1.00)		1 50	
22 Hotel Burlington		1 50	
23 K. C. - Oquawka (2)		90	
Baggage transfer		25	
24 Hotel Oquawka (2)		2 50	

CASH ACCOUNT. JULY.

Date.	Received.	Paid.
1		7 40
		22 40
		1 80
		4 80
2		35-
3		1 00
		25-
		25-
7		80

CASH ACCOUNT. JULY.

Date.	Received.	Paid.
24		2 40
25		4 30
28		3 00
		10 50
		101 40
		1 00
		50
31		55-

CASH ACCOUNT. AUGUST.

Date.	Received.	Paid.
1		Meals 1.50
2		Hat 4.50
		Rubber coat 4.00
		Cartridge 75-
		Meals 1.36
		Envelopes 25-
		2 Books 40
		Baggage express 50
		Fruit (grapes & peaches) 60
3		Baggage express 50
Chas		Room Inworth from date 5.00
		Meals 1.33
		Bread & pie 25-
4		Meals 1.33
		Fruit 25-
5		Meals 1.33
6		Meals 1.33
		Melons 25-
		Horse car fare (4) 40
7		Meals 1.33 & melon 1.45-
		Horse car fares (4) 40
8		Meals 1.33
		Mailing 1.37; packing boxes 2.00 = 3.37
		Carton .37; grapes 25- = .62
9		Meals 1.33
10		Meals 1.33
11		Meals 87
12		Meals + melon 1.43
13		Meals 1.33

CASH ACCOUNT. AUGUST.

Date.	Received.	Paid.
14		Meals 1.33
14		Melons & cakes 30
15		Meals 1.33
		Putting taps on thoes 75-
		Grapes 25-
16		Meals 1.33
		Bull fight (2) 1.50
		Candles & matches 25-
17		Meals 1.33
18		Meals 1.33 + 25- 1.58
19		Meals 1.33 + 2 1.35
20		Meals 1.66
21		Meals 1.00
22		Meals (1.33) & Peaches (25-) 1.58
23		Meals (1.33) & grapes (25-) 1.58
24		Meals 1.33
25		Meals 1.08
26		Meals 1.33
27		Meals 1.33
28		Meals 1.00
		Fines 50
29		Meals 1.00
30		Meals 1.00
		Grapes 25-
31		Meals 1.66
		Food 62

CASH ACCOUNT. SEPTEMBER.

Date.		Received.	Paid.
1	Meals		50
2	Meals		1 16
3	Room rent to Oct 30	5-00	
	Meals	1 33	
4	Meals	1 33	
5	Meals 1.00+		
	Room El Paso	50	
	Bot. paper 111 lbs (Am.)	13 30	
	Custom house pass (Mex.)	2 50	
	Cartons	50	
	Duty on paper	4 50	
	Street car fare (4)	40	
	Postage stamps	25	
	Freight on box from Vt.	3 70	
	Grapes (1.00+.10) peaches (10)	1 20	
6	Meals (Ch ²)	1 33	
7	Meals	1 33	
8	Meals & lunch	1 43	
9	Meals	96	
10	Meals	1 33	
11	Meals & lunch	1 73	
12	Meals & grapes (50)	1 33	
13	Meals	1 33	
14	Meals	1 33	
15	Meals	1 68	
16	Meals	1 33	
17	Meals	1 68	
18	Meals	1 33	
19	Meals	1 46	
20	Meals	1 33	

CASH ACCOUNT. SEPTEMBER.

Date.		Received.	Paid.
21	Meals & peaches		1 48
	Street car fare (4)		40
22	Meals (2+3)		1 68
23	Meals (El Paso)		1 35
	Street car fare		30
	Knife (Mex.)		90
	Fruit 10+50		60
	Bot. paper (Am.)		1 08
	2 books		50
24	Meals		1 33
25	Meals		1 50
26	Meals		1 35
27	Meals		1 33
28	Meals		1 33
29	Meals		1 33
30	Meals & fruit		1 60

CASH ACCOUNT. OCTOBER.

Date.		Received.		Paid.	
1	Meals			1	66
	Candles				18
2	Meals			1	50
3	Meals			1	48
4	Meals			1	33
5	Meals			1	58
6	Meals			1	66
	Postage				20
7	Meals			1	45
8	Meals			1	18
9	Meals			1	58
10	Meals			1	15
11	Meals (Am.)			1	66
12	Meals, El Paso,			1	40
	Grapes			1	75
	Tapping shoes			1	50
	Postage (to P. & H.)			1	75
	Room				75
13	Meals			1	33
14	Meals			1	50
15	Meals			1	50
16	Meals			1	54
17	Meals			1	80
18	Meals			1	83
19	Meals			1	58
20	Meals			1	88
21	Meals			1	58
22	Meals			1	58
23	Meals			1	58
24	Meals			0	90

CASH ACCOUNT. OCTOBER.

Date.		Received.		Paid.	
25	Meals			1	50
26	Meals			1	16
27	Meals (12)			1	40
28	Meals			1	58
29	Meals			1	58
30	Meals			2	00
31	Meals			1	36

CASH ACCOUNT. NOVEMBER.

Date.	Received.	Paid.
1		Meals 1 33
1		Tapping Shoes 75-
2		Meals 1 38
3		Meals 1 60
4		Meals 1 72
		Postage to Fred 80
5-		Meals 1 25-
6		Meals 2 00
7		Meals 1 38
8		Meals 1 80
		Pd G. H. W. 1 00
9		Meals 1 65-
10		Meals 1 48
		Pd G. H. W. (Bowman) 1 50
11		Meals 1 50
		2 packing cases 3 50
		Carter 1 00
12		Meals 1 75-
13		Meals 2 33
14		Meals 2 00
		Room rent for 2 weeks post 2 50
15-		Meals 2 00
		Carter 75-
16		Meals 1 50
		Freight Ch ^c - P. del N. 9 75-
		Baggage transfer 50
		Custom House papers (Am) 5 00
		" " (Mex.) 2 50
		Drayman 3 00
		Band iron & nails 1 15-
		Freight for E. W. 11 90

CASH ACCOUNT. NOVEMBER.

Date.	Received.	Paid.
16	2 tickets Ch ^c - Schenectady 61	65-
	Room 1	00
	Food 1	40
18	Food	50
19	Food	55-
20	Food	35-
21	Food (50) (50)	1 00
	2 tickets Schenectady - Rutland	5 50
	2 " Rutland - Charlotte	4 50
23	Paid G. H. Welcome	30 00
	(due " " ")	80 00
	Postage	1 47
27	Express age	75-

CASH ACCOUNT. DECEMBER.

Date.	Received.	Paid.
2	Postage	36
14	Geo. H. Welcome cash Postage	\$80.00 68

CASH ACCOUNT. DECEMBER.

[illegible]

SUMMARY OF CASH ACCOUNT.

		Received.	Paid.
JAN.			
FEB.			
MAR.			
APRIL			
MAY.			
JUNE.			
JULY.			
AUG.			
SEPT.			
OCT.			
NOV.			
DEC.			

BILLS PAYABLE. JANUARY.

[illegible]

BILLS PAYABLE. FEBRUARY.

Date.	NAME.	Dolls.	Cts.
	<i>Opuntia arborescens</i> Engelm. South as far as Passaic, there 20-40 feet high; fls. & inches broad, purple.		

RECEIVABLE STATISTICAL

BILLS PAYABLE. MAY.

[illegible]

BILLS PAYABLE. AUGUST.

BILLS PAYABLE. SEPTEMBER.

[illegible]

BILLS PAYABLE. OCTOBER.

BILLS PAYABLE. NOVEMBER.

[illegible]

BILLS PAYABLE. DECEMBER.

Date.	NAME.	Dolls.	Cts.
	A. Wislizenus, M.D.		
August 8 th -15 th , 1846	in		
Paso del Norte, Mexico			
Aug., 24 th	reached Chihuahua		
Aug., 29 th	got into trouble.		
Sept., 11 th	started for Cusi-		
March 3, 1847	left Cusi-		
April 26 th	left Chihuahua		
	for home via Parras		
May 10 th	at Santa Rosalia		
N. B.	Tray Sautelle and Sta R.		
	for botanising -		
	RECEIVABLE		

MEMORANDA.

[illegible]

MEMORANDA.

Date.		Dolls.	Cts.
134	from [illegible]		100
1378	ditto [illegible]		100
	Bulin & Coates Kansas City, Mo.		
	To Cusi, then Carachic by stage (Arroya de los yslas) for Parral with stage (40) from Huajuquillo (Wakawko)		

ADDRESSES.

NAME.	Fayot, Kephram & Co.,
STREET, No.	204, Sansome St.,
CITY.	San Francisco, Cal.
NAME.	John Ahlquist
STREET, No.	32 Nassau St.,
CITY.	New York.
NAME.	S. W. Laytho +
STREET, No.	Wm. J. Berner,
CITY.	Chicleston, Arizona.
NAME.	F. Macmanus & Sons,
STREET, No.	Chihuahua,
CITY.	Mexico. <i>Hawkey & S. Correll</i>
NAME.	Esteban Benites, M.D.,
STREET, No.	Parral,
CITY.	Chihuahua
NAME.	invited Dr. Parry to explain
STREET No.	the flora of his district.
CITY.	
NAME.	B. K. Bliss
STREET, No.	133 East 35th St.,
CITY.	New York.
NAME.	Edwin Taxon, Esq.,
STREET, No.	264 Purchase St.,
CITY.	Boston.
NAME.	Prof. E. S. Lope. <i>with star vide</i>
STREET, No.	2100 Pine St.,
CITY.	Philadelphia, Pa.
NAME.	Carl Hoege,
STREET, No.	Bay View , Detroit
CITY.	
	Robt. Schumacher & Co. Phil.

ADDRESSES.

NAME. Jacob Lemon,
STREET, No. Care of W. S. Locke,
CITY. 1^a Cines de Mayo, N.Y. Ciudad de M.
NAME. Hotel Tacatecano
STREET, No. *Escober*
CITY. *Quito*
NAME. Luis Cuilty,
STREET, No. *Chihuahua*
CITY. *Chihuahua*
NAME. Wm Davis, Div. Supt.,
STREET, No. Jimulco
CITY. Will probably grant quarters, etc.
NAME. Joseph Verlin,
STREET, No. Chihuahua,
CITY.
NAME. Mr. John Sutton
STREET No. Norwich,
CITY. Vermont
NAME. Miss Elizabeth H. Hicks,
STREET, No. S. Shaftsbury,
CITY. Vt.
NAME. J. C. Dodge Genl Man.
STREET, No. 50 R. E. N. R.
CITY.
NAME. W. W. Calkins,
STREET, No. Room 1, 238 S. Water St.,
CITY. Chicago
NAME. A. N. Pingle,
STREET, No. Shetford, Vt.
CITY. Gen. Doc., Min. C. Ex.

ADDRESSES.

NAME. San Juan Sandabasa,
STREET, No. Querero
CITY. Ch.
NAME. S. McLaughlin
STREET, No. Ch.
CITY. En. in law of the above
NAME. Mrs. E. B. Holmes,
STREET, No. Chihuahua
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